THIRD SERIES VOL 55 NUMBER 10 AUGUST 1948

THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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Cottage at Blaise Hamlet by John Nash (1811). *See note on page* 430

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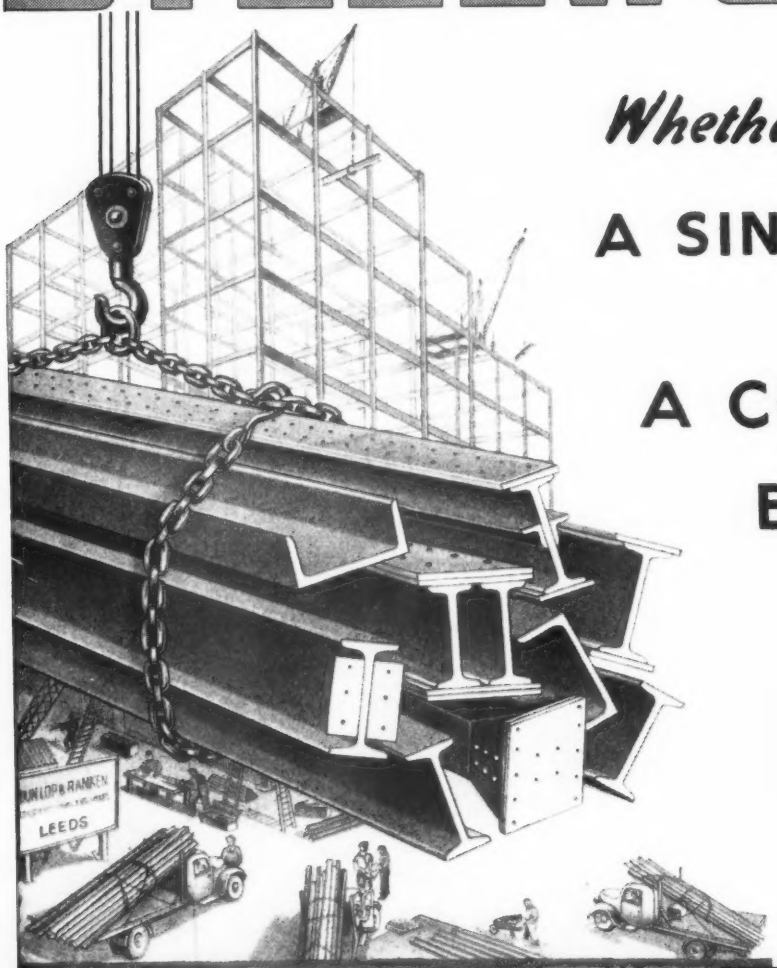

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British Architects' Conference, 1950

The invitation of the Wessex Society of Architects to hold the British Architects' Conference in 1950 at Bath has been accepted by the R.I.B.A. Council. The Conference will coincide with the centenary celebrations of the Bristol Society of Architects.

The Sessional Programme 1948-49

The programme for the forthcoming session promises a repetition of the full attendances of members at general meetings which characterized the session just ended; the Architectural Science Board, far from exhausting their field as some have expected, also have compiled a list of lectures on new subjects of scientific and practical interest.

On Tuesday 9 November, the President, Mr. Michael Waterhouse, M.C., will open the session with his Inaugural Address and unveil the portrait of his predecessor, Sir Lancelot Keay, which has been painted by Mr. James Gunn. On 23 November Professor Ian Bowen will deliver a paper on *The Economics of Building Operations and the Architect*. A burning topic will be dealt with by Sir Malcolm Trustram Eve on 14 December when he speaks on The Town and Country Planning Act and the Work of the Central Land Board. In the new year the two meetings devoted to prizes and studentships are to have two papers, the first by Mr. R. Gordon Brown [*A*], Principal of the A.A. School of Architecture, on *Some Problems in Architectural Education*, and the second—the criticism of prize drawings—will be by Mr. Anthony Chitty, M.A. [*F*].

In the field of æsthetics, *Mannerism in Architecture*, by Professor Anthony Blunt, promises to be a remarkably interesting successor to Mr. John Summerson's paper on 'ædicules'. This will be followed by a paper by Mr. H. S. Goodhart-Rendel, M.A. [*F*], which has the entrancing title *Rogue Architects of the Victorian Era*.

After the presentation of the Royal Gold Medal on 5 April and the Annual General Meeting on 3 May, the series of general meetings will conclude with a repeat performance by Mr. Charles Woodward [*A*] and Mr. Sydney Redfern of *Questions and Answers in Practice*.

The Architectural Science Board's series of lectures begins with one on *Recent Developments in the Precasting and Pre-stressing of Concrete*, by Mr. L. W. Elliott, A.M.I.C.E. [*A*] (26 October), which will be followed (7 December) by Mr. Richard Eve, B.Arch. [*A*], of the Building Research Station staff, on *Full-Scale Trials on House Heating Systems*. In February, Mr. F. J. Samuely, B.Sc., A.M.I.C.E., who is on the staff of the A.A. School of Architecture, will lecture on *Force and Form : the Æsthetics of Stress Distribution*. Two later lectures will be on *The Protection of Metals against Corrosion*, by Dr. T. P. Hoar, M.A., B.Sc., and *Microclimatology*, by Mr. G. Manley, M.A., M.Sc. Mr. Manley's paper will deal with local variations of climate as they affect the design and siting of buildings.

The whole series of general meetings and lectures will be published in the October JOURNAL on a loose card, which will also give full particulars of dates and times.

The Architects' National Council

The following appeared as a loose insert in the July 1948 JOURNAL:—

The Architects' National Council. The Honorary Officers of the R.I.B.A. have authorized the publication of the following statement:—

> Many members will no doubt have received a circular from a body known as the Architects' National Council.
> In the circular it is stated that while the R.I.B.A. was not officially represented at the meeting at which the body was formally constituted it has the matter 'under consideration'.
> This is not correct. The matter came before the Council of the Royal Institute on 4 May 1948 and again on 22 June 1948 and on both occasions it was decided not to take part; and the sponsors were so informed.
>
> Members will be aware from the statement by Sir Lancelot Keay published in the JOURNAL of April 1948 that the Institute has taken active steps in the matters dealt with in the circular.
> 20 *July* 1948

"Coming Shortly"

For a brief space the other day the main staircase of the R.I.B.A. building assumed the appearance of a film studio with cameras, floodlights, leads and other paraphernalia littering the floors in profusion. The occasion was the shooting of a short scene for inclusion in the film *Women of Our Time*. Starring, for the architectural profession, was Miss Jane Drew, one of the Institute's eight women Fellows, supported by Mrs. Barbara Auld [*A*]. The film is being made by This Modern Age Film Unit. This is an example of the kind of request which film people frequently make to the Public Relations Department of the Royal Institute. It at least shows that the film industry realizes the importance of the architectural profession and looks to the Royal Institute to supply help and information.

Bust of Mr. G. Grey Wornum at the R.I.B.A.

A bust of Mr. G. Grey Wornum [*F*], by Mr. Charles Wheeler, R.A., is to be set up in the R.I.B.A. building. The bust is being presented by Mr. Edward Maufe, R.A., who says that he has long admired both the R.I.B.A. building and its architect, and that he thinks the designer of so fine a building ought to be commemorated in it. The bust is to be placed on a wall bracket above the left-hand stair flight leading from the entrance hall to the foyer.

Festival of Britain Director

The Lord President of the Council has announced the appointment of Mr. Hugh Casson [*A*] as Director for the Exhibition of Architecture, Town Planning and Building Research for the Festival of Britain 1951.

International Congress of Architectural Students

This Congress, sponsored by the Architectural Students' Association, and which was to have been held in London at the R.I.B.A. from 23 August to 3 September, has been postponed. It will now be held from 30 December 1948 to 8 January 1949. Arch. S.A. is handling the organization.

Howard Medal Awarded

Mr. Richard L. Reiss, Vice-Chairman of the Welwyn Garden City Development Corporation and former Chairman of the Town and Country Planning Association, has been awarded the Howard Memorial Medal, only given for a lifetime's service to the Garden City Movement. Mr. Reiss went to live in Welwyn in its early days. He was a Director of the Welwyn Garden City Company from its foundation until last May and for many years its Deputy Chairman, resigning in order to accept the post of Vice-Chairman of the Welwyn New Town Development Corporation and his long association with Welwyn's affairs is to be continued.

The Medal has previously been awarded to Sir Raymond Unwin (1938), Mr. Barry Parker (1941), Sir Patrick Abercrombie (1943), Dr. Norman Macfadyen (1945), and Mr. Lewis Mumford (1946).

Sir Lancelot Keay's Successor

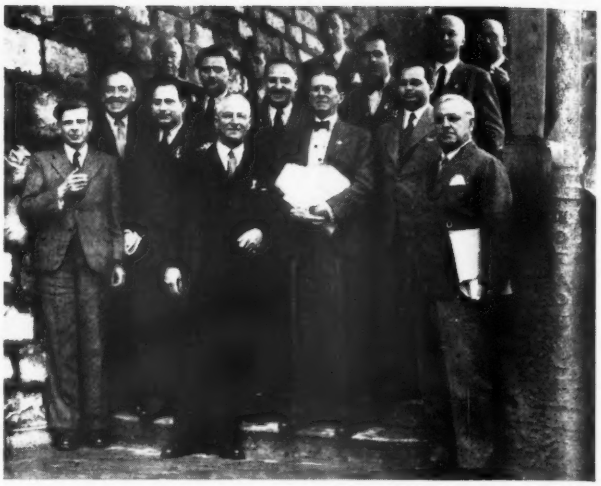
Mr. Ronald Bradbury, B.A., M.Sc., Ph.D. [*F*], aged 40, Director of Housing for the Corporation of Glasgow, has been selected from the 26 applicants, to succeed to the post of Liverpool City Architect and Housing Director. The salary is £3,000 per annum.

Exhibition of Mural Painting

A new departure in exhibitions at the R.I.B.A. is one to be arranged by the Society of Mural Painters in conjunction with the Arts Council of Great Britain and the R.I.B.A. The exhibition, which is being designed by Mr. Lionel Brett [*A*], is to be toured by the Arts Council after its showing at the Institute. It is intended to demonstrate how mural paintings and sculpture can be used in modern buildings today and, in addition, to show public authorities and other building owners that their cost, relative to that of the building itself, is small.

New Town at Bracknell, Berks.

On 4 August the Minister of Town and Country Planning met representatives of the five local authorities concerned, and agreement was reached in the proposal to develop Bracknell, Berkshire, as a new town to house a population of 25,000. The next step, after consultation with Berkshire County Council and Easthampstead Rural District Council on the actual area to be designated, will be the publication of a draft order designating the site of the new town, after which there will, of course, be the usual statutory opportunity for objecting to the proposal.



Sir Patrick Abercrombie and some of the delegates at the International Union of Architects at Lausanne on 27 June (*see page* 459). They are (left to right) Messrs. Gradmann (Switzerland), Kopp (Switzerland), William-Olsson (Sweden), van der Broek (Holland), Vischer (Switzerland), Ceas (Italy), Vago (General Secretary) (France), Sir Patrick Abercrombie (England), Heikal (Egypt), Toneff (Bulgaria), Baranov (U.S.S.R.), Bens (Czechoslovakia), Walker (U.S.A.), and Piotrouski (Poland). Delegates of twenty countries adopted a constitution and elected an executive committee

The International Olympic Committee

The International Olympic Committee held its opening session in the R.I.B.A. building, the members being welcomed by the Rt. Hon. Philip Noel-Baker, Minister of State for the Commonwealth, who is an old Olympic runner. Subsequent meetings of the Executive Committee were also held there.

The Olympic torch was designed by Mr. Ralph Lavers [*A*].

Archæological Appointment

Mr. Seton Lloyd, F.S.A. [*A*], has been appointed Director of the British Institute of Archæology at Ankara in succession to Professor J. Garstang. Mr. Seton Lloyd has for the past ten years held the post of technical adviser to the Director of Antiquities for the Government of Irak. Mr. Seton Lloyd has a wide experience of archæological work in various parts of the Middle East.

R.I.B.A. Library Hours

In September the R.I.B.A. Library will be open daily from 10 a.m. to 7 p.m., except on Saturdays when it will be closed at 2 p.m. After 1 October the normal Saturday closing hour of 5 p.m. will be resumed.

On the Cover

Mr. John Summerson [*A*] has supplied the following note on the cover illustration: Blaise Hamlet, or 'Henbury Cottages', consists of nine cottages, all different and all designed by John Nash in 1811 for employees and pensioners of the Blaise Castle estate. The cottages belong to the middle period of Nash's career, when he was known purely and simply as a designer of classical villas and Gothic castles. (He did not begin his London work till he was 60.) The cottages form an irregular group round a green, with a combined pump, sundial and weather-vane in the centre, built many years later than the cottages. Each cottage has (or had) a name, such as 'Jessamine', or 'Rose Cottage'; the example in the illustration was called (not quite accurately) 'Circular Cottage'. Blaise Hamlet, which originally belonged to the Harford family, was acquired by the National Trust in 1943.

Conference on Housing Layout in Theory and Practice. Part II

Held at the Royal Institute of British Architects
9 and 10 June 1948. The President in the Chair

Address by The Minister of Town and Country Planning

The Right Hon. Lewis Silkin, M.P., Minister of Town and Country Planning, said: The subject of this Conference, Housing Layout in Theory and Practice, is one of the most interesting of the various aspects of housing, and as a lawyer I am going to try to stick closely to it. Housing layout in the past has been a subject which has not given very great scope to the professional architect and planner, at any rate in recent years. The layouts of the 18th century in London, in Edinburgh, in Bath, and so on, have never been repeated; they are in a class by themselves. They were carried out both by private enterprise and by public action. I take it that what we are discussing at this Conference, however, is the layout of recent times, and particularly of the inter-war years; and the kind of housing about which we are talking has been carried out partly by local authorities and partly by private builders.

I want to talk mostly about the development by local authorities. All that I would say about development by private builders is that in the main it has been carried out without any plan, mostly on the outskirts of existing towns, and that it constitutes to a very large extent one of the evils with which we at the Ministry of Town and Country Planning are trying to deal—the evil of ribbon development and of the sprawl and bad expansion of existing towns. It is in the field of local authority housing that some attempt has been made to plan layout and the location of our houses, and it is about that that I want to talk.

In practice, I do not think that anyone would contend that the layout of municipal housing estates is something of which we can feel entirely proud. I want to admit quite freely, as one who has had considerable responsibility in the past for a good deal of layout of municipal housing estates, that those responsible have been fettered in a way which has made their task almost impossible. The housing estate of the inter-war years has been an estate of dwellings for one class of the community only; the majority of the estates were for people who were being rehoused from slum areas, or who were living in overcrowded conditions, whose means were limited and for whom, therefore, dwellings had to be provided at the lowest possible rents. That in itself is a limitation which prevents imaginative planning.

Further, they have been in the main large families, which has necessitated building houses of practically one type, the three-bedroom house. The vast majority of the dwellings have been of that type, and they have been severely restricted by the regulations made by the Ministry of Health both as to superficial area and as to cost. In those circumstances, there was very little scope for even the most imaginative planner to provide a layout which was satisfactory in all respects, and I think that it would be fair to say that the energies of most of the housing directors and housing architects and planners were directed to the avoidance of monotony.

Imagine an estate like that at Becontree, with a population of something like 120,000, peopled by one class of the community and, in the circumstances which I have described, housed in almost identical houses. Imagine the task to prevent monotony of layout! A good deal of ingenuity has been used in getting different types of layout, with which most of you will be familiar, but at the end the estate was still monotonous in appearance, because it was impossible to get away from the fact that the houses were identical in character, size and height, and in a good many other respects, however one might try to camouflage that fact by having different colours for the doors or even different treatments of the outside of the houses.

Moreover, the monotony was not even broken up by the provision of the necessary facilities for the people occupying those houses. I think that in that respect we failed to provide the right kind of conditions for the people whom we rehoused. There has been a shortage of shops in close proximity to the houses. I think that on the whole we have been pretty good about educational and health services, and generally, but not always, in the provision of open space. We have certainly failed to create a living community. We have not provided adequate facilities for recreation and social intercourse, and where we have done so we have done it too late. In general, I am bound to say that, for the reasons that I have given and for many other reasons with which most of you will be familiar, we have nothing of which to feel particularly proud in our inter-war housing estates.

I need not, however, dwell on these defects of the layouts of the past, because I think that in the last few years conferences such as this and discussions which have been held in all parts of the country by yourselves, by the Housing and Town Planning Association and by other bodies have tended to cast the limelight on the defects of the past, and the question now is, what are we to do in the future?

I think that the first thing that we have to do is to ensure that the new estates create a proper balance, and balance in a variety of ways. If you have that balance, you will get automatically the right layout. The layout should be determined by the conditions in the estate, and not superimposed on the estate.

The first thing that we want is a variety of sections of the community, a proper social balance. I do not think that we have paid sufficient attention or given sufficient thought to the need for this social balance. Let us examine what we mean by it. We mean variety; variety, first of all, in types of persons, in social and economic position, so that each person, each member of the community, may be able to make a contribution to the life of the community, and so that each may enrich by his experience the experience of others.

That implies that there has to be real contact between the different sections of the community. We also need not merely different classes of society on our housing estate but also different age-groups. One of the defects of the inter-war estates was that we had necessarily to house the people who most needed houses, who normally consisted of parents with young children, and we have tended, therefore, on our housing estates to have a disproportionate number of young children, which has, of course, created certain social and economic difficulties, possibly the over-provision of schools, or the overcrowding of schools of all kinds, and other difficulties which in a generation will become reversed.

In the new estates we must have a variety of families, the newly-married couples, the couples with young children, and families where the children have grown up. We want, in fact, a cross-section of the community; and one of the difficulties there may well be the necessity to go somewhat outside the strict housing needs basis or the points system which so many local authorities have adopted, which must lead to the undesirable result to which I have referred.

I am very concerned, indeed, not merely

to get different classes of the community, people of different occupations, living together in a community, but to get them actually mixing together. The question to which I should like you to direct your minds for a few moments is how we can ensure, by means of layout, that we really do get different sections of the community mixing together. Unless they do mix, and mix freely, in their leisure and recreation the whole purpose of getting what we called a mixed community disappears. There is no value in having different strata of society in different streets if they do not mix; the whole purpose is to ensure that they do mix. We have therefore to consider what is the right arrangement, the right layout of the estate, to ensure that the intermingling of people of different classes of society is facilitated.

I do not pretend that we have a ready-made solution to this problem. Indeed, the whole subject is so new that very little time and thought have been devoted to it. To a certain extent the papers that you are to hear today on the planning of neighbourhood units should of necessity give rise to a consideration of these problems, and I hope that Miss Ledeboer and Mr. Matthew will have something to say about how to make this mixed community a success; but the fact is that until we have given much more thought to the subject and carried out much more research than we have done so far, we are not really in a position to provide the answer.

What we want to ascertain is where, either in this country or elsewhere, has it been possible to get the kind of community life for which we are looking. Is it at Welwyn Garden City or Letchworth? I am not sure. Are there towns in this country with the sort of population which we envisage for our new towns—60,000 or thereabouts—where there is this kind of living organism this interplay of various sections of the community? Do we find it in Guildford or Worcester or Hastings? Are they the right kind of towns? Do you get those conditions there? If they are not to be found in this country, do they exist anywhere? A great deal of research will have to take place before we can give an answer.

We do know that there are some interests which bind people of different classes together. There is the political interest. In the party with which I am most acquainted we get people of different sections of society mingling freely at party meetings, and at these meetings I can assure you that the question of the stratum of society from which you come plays no part whatever. There are other organizations of which the same is true—I think that bee-keeping may be one, and possibly musical societies. An attempt was made at the Peckham Health Centre to get people of different classes of society to mix freely together, and with a certain amount of success.

All these various efforts and experiments and activities have to be collated, and we have to see, in terms of layout of our housing estates, what is the best arrangement to bring about what we want to achieve. Is it best to have in the same street houses of different types, so that people are constantly running across one another? Is it desirable to have shops in the neighbourhood units arranged in such a way that the women shop in the same place at the same time? Or what other arrangement of the estate can we make which will best facilitate this?

It is quite certain that even when you get people meeting together, attending the same meetings, you will not necessarily get the coalescence of ideas which you want. I have known committees on which people have sat for many years, of which the members were not on speaking terms outside the committee. It is not that they were hostile to one another; they were simply indifferent to one another. They freely exchanged ideas on the subject-matter of the agenda, but they never exchanged thoughts outside that. I feel that perhaps one of the ways of getting people to exchange ideas and experiences is not merely to get them to come together to a certain place but to see that they go home in the same direction after leaving the meeting. Those are the occasions when people really do open out and exchange ideas most freely, and when you get the greatest advantage from the mixture of different classes of the community, possibly dropping in on the way home and having a drink. How do we arrange our housing estate in such a way as to get the best results from that point of view?

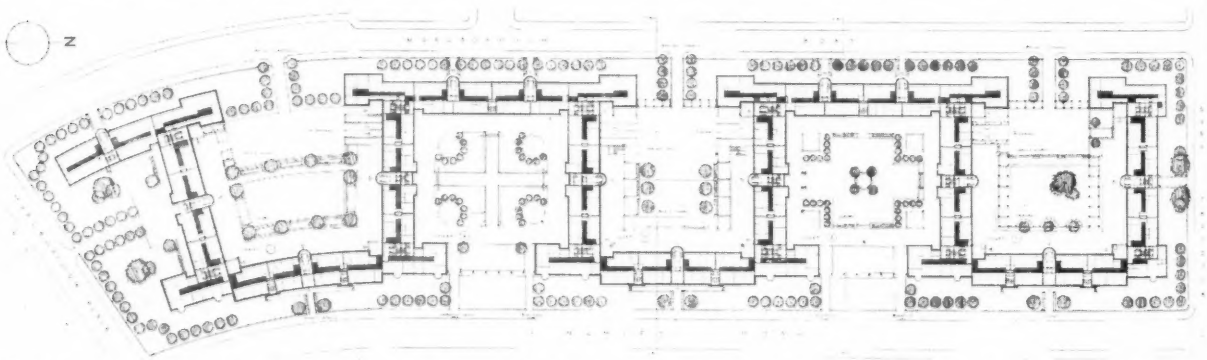
That is the task which confronts us. It is our next big task. It is a task on which we are working strenuously in connection with the new towns. There we are endeavouring to create balanced and independent communities. Of course, there has to be a balance of occupation and industry. You have to get the right age-groups and the right kind of interests from the point of view of occupation in the town. But when you have done all that, you are still confronted with the problem of layout.

We are setting up at the Ministry a small organization for the purpose of carrying out research on behalf of the Development Corporations of the new towns, in order to try to solve this problem. It is going to take some time, but I hope that the results of that research will be of interest not only to the twelve new towns which have so far been created but to others which from time to time will be set up.

Different towns and different places, of course, have different problems, and we have to take into account the local factors; but, when all that has been done, there is undoubtedly the common factor that what we want to bring about is the enrichment of human life by a wide range of contacts between individuals and between families, as wide a range as we can possibly secure. That, I think, is the real purpose of all community planning and of the layout of our housing estates.

I am afraid that all this is very pedestrian, but I warned you at the outset that there was very little new that could be said about housing layouts. I hope that at any rate these remarks have helped to put some of the problems in their proper aspect, and may have some influence on the layout of future housing estates.

The President, R.I.B.A., Sir Lancelot Keay, K.B.E. on behalf of the Conference, thanked the Minister for coming and talking so frankly. They did not mind, he said, frank talk from a Minister; it was a good deal better than a polished speech full of compliments.



The Eyre Estate, Finchley Road, London. Louis de Soissons, A.R.A. [*F*] and Partners. A high density urban scheme for a total of 354 flats. The highest blocks have eight floors, including a lower ground floor, the lowest block having four floors. A difference of approx. 15 ft. in level from Finchley Road to Marlborough Place has been utilized to provide underground garages under courtyards entered from Marlborough Place, with corridors for tradespeople to enter the service stairways of the blocks. Total area of site 10 acres gross

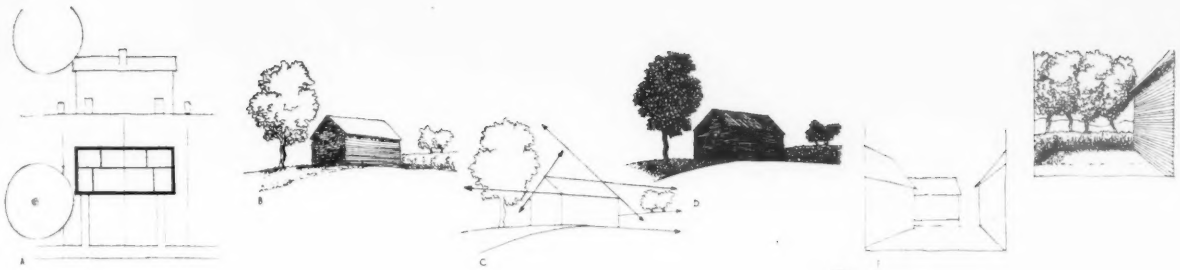


Fig. 1

Three Dimensional Aspects of Housing Layout

By Frederick Gibberd A.M.T.P.I. [*F*]

The President in the Chair

Mr. Gibberd's paper was given as a series of composite photographs and diagrams, the script being a running commentary on them. Owing to the shortage of space, we are only able to show a few typical examples.

My task is to talk to you about three dimensional planning. Three dimensional planning means that when we make a layout we plan it in terms of height as well as of length and breadth. We visualize how the plan—a two dimensional thing—will look when it is actually built in three dimensions. I have therefore to discuss how things appear to us when we arrange them in different ways. When we criticize appearance we are exercising our æsthetic sensibilities. You will bear in mind, therefore, that my remarks are prejudiced by my way of looking at things.

The subject is so vast that I thought it would be more useful if I dealt with some detailed points rather than tried to give a formal lecture on broad aspects of the problem. I thought, too, that I could best make my points by showing them to you in a series of composite pictures, to show both the plan and the appearance. You will notice the plans are marked to show the viewpoints. Their sole purpose is to illustrate my remarks, not to review English or any other practice. The points I shall make will be very elementary indeed, because I feel that we have become so immersed in technical problems, so blinded by the squalor around us, that we have almost lost the art of looking.

To begin with, we will take it for granted that our dwellings are well planned to the standards set by the Minister of Health. We will further assume that they are placed in proper neighbourhoods, in accordance with the very latest advice of the Minister who has just addressed us. The neighbourhood functions properly. It has proper standards of convenience, fresh air, and sunlight. But what does the result look like? That is the important thing, and that will depend on how sensitive the three dimensional planning is.

THE RAW MATERIALS OF SITE PLANNING

Three dimensional planning mean a lot more than visualizing just how houses will look in relationship to roads. It is planning everything we are going to look at—making a complete visual picture. So first we must be quite clear what it is we are dealing with, what the raw materials of site planning really are.

First of all, dwellings. Although we represent a dwelling by a plan and an elevation, it appears as solid mass (Fig. 1). It is really enclosed spaces, but that is its architectural significance. When the planes of the masses meet, they form lines, and these lines give direction. A strong horizontal line gives a feeling of repose. That is why terrace houses are generally more restful than semi-detached. An inclined line links the building with the lines of the landscape, that is why we generally prefer a pitched roof to a flat roof.

The surface of the mass has colour and texture, both generally regarded as mere matters of architecture, but as I shall show they are matters for site planning also. When we look at the mass from a distance we are conscious of its silhouette. This again has great significance in site planning. These objects we place in the landscape and relate them together. The landscape also has form. It also has colour and texture. A tree is not just a circle drawn on the plan. It is a very dominant mass with silhouette, line, colour and texture. It should be used in site planning just as we use dwellings.

When we take houses, solid masses, and place them near to each other, we make a space between them. Similarly, we can make a space between a building and the landscape such as a tree and hedges. The space we make is of great significance. It is in itself intangible, but nevertheless it is quite real. You cannot feel or touch it, but once you relate objects to each other you are conscious of the space between them.

In our list of raw materials we must include any existing building, as this too must be related to our picture, if we want a complete picture and not just a few photographic views. We have too to consider the horizontal planes between the masses. If we are content to have just roads, pavements and back gardens between our buildings, the appearance will be very dull. The horizontal planes have very important surface qualities of colour, texture and pattern. Like the walls of buildings, they are an element in site planning.

And lastly the detail of our design, the porches, gates, fences, and so on, are also raw materials. They provide, to borrow a word from Thomas Sharpe, 'foils' to the general picture. They punctuate and give life to our compositions. Near to, they provide secondary visual pictures on a minor key to the broad grouping.

The chief characteristics of these raw materials is that they are masses defining spaces. These masses have three dimensions. Therefore we can only appreciate them by moving round them and looking at them from all points of view.

To know these shapes we have to move round them. As we move round them the shapes keep changing. Furthermore, we do not see them always from the same distance. We have to consider the near view as well as the distant view. We have not one elevation but a complexity of forms. There is no fixed view in site planning; the views are infinite.

We have, too, a space which we have to get inside to appreciate, just as one does the space in a room. It is much more difficult when we get many buildings defining different spaces. We work far too much on plans and elevations and see too many fixed viewpoints of building in the Press. We are losing the art of looking, and must regain it by studying the building groups around us so that our visual experience becomes wider.

How do we set about composing all these enormously exciting things into a work of art? Do we pin a flat thing, the site plan, on to a drawing-board and work out the roads on it, and then dig out our house type plans—more flat things—and arrange them on these roads? Or—monstrous suggestion—even leave someone else to arrange the type plans on the road plan we have made? Of course not; that is not site planning at all, it is making paper patterns.

First of all we take our contour survey drawing on to the site and really get to know it in actuality. We walk over every yard of the land and get the feel of it. We make notes of the three dimensional objects. Not just the big trees, but the hedges,

Fig. 2

walls, fences, and so on. These notes will tell us their size, shape, colour and texture so that we can, wherever possible, work them into our design. We make notes of the views inside the site; the views looking out of the site; and the views looking on to it from a distance. I myself use a camera supplemented by little thumb-nail sketches. One must, of course, mark the view-points on the site plan. As our design progresses in the drawing office, we keep visiting the site to check it back with the actual landscape.

Some architects are so skilled in visual perception that they can be safely left to work out the design on paper. Others are not so skilled, or not so confident, and so they make models to check back on their paper designs. These models need not be elaborate, but can be knocked up in cardboard, plasticine, or other materials which are easily worked. Models are a wonderful check on design. I would go so far as to say that every local authority should have its model-making department. It can be part of the architects' department and so need not be a special charge on the rates.

We must also check on the views inside the building groups, to see how they will look from eye level. Models do not do this, and in that respect they can be a positive danger, for the god-like view they give is so exciting that we may be blind to what is going on inside. We must make perspective sketches from eye level; not elaborate rendered drawings from only one viewpoint with lovely trees where trees will never be, but a whole series of little sketches from all kinds of viewpoints. We would also make detailed studies in elevation, as we have to work out such things as screen-walls, porches and pavings.

THE FORMS OF DWELLINGS AND THE LANDSCAPE

Let us look at some of the forms of our dwellings and our landscape from the point of view of combining them into compositions. Beginning with the house, the detached house is a complete and a small composition. A row of individually-designed houses will not alone compose into a group; they can be related to each other only when the landscape is made the dominant element.

But, if we have to repeat a small element many times to a high density, we are up against almost insurmountable difficulties. The temporary bungalow has shown this. When the numbers get at all large the effect is monotonous and small in scale. The siting is satisfactory only when there are

Fig 3

very few, or when there is a strong landscape element such as a belt of trees. How much better is the appearance when small dwellings are in terrace form.

The semi-detached house is less difficult to compose than a bungalow because of its greater size; but here again it is too small and definite a form to be repeated many times. We get a series of short, rectangular forms with spaces in between. Ten or 20 may not be too dull, but with larger numbers we need variety from some other dwelling type.

Even when we site just a few houses it is often better to link them together by some device such as a screen wall or dense planting. Generally speaking, houses in terrace formation will make far better compositions than semi-detached. The greater breadth of the façade—the longer horizontal lines—give the house far more repose. Its proportion is much better than the semi-detached, where the height is too great for the width. We recognize this even though we may not admit it. How proud we are of our villages and small towns where the majority of the houses are linked together in terrace formation. If we desire to create a sense of urbanity, we may well increase our terrace houses to three floors, which is probably the ideal average height for town building.

The freedom that one has in designing flat blocks has given so much licence in design that some very curious forms indeed have been made (Fig. 2). The essential form is a flat slab. This can be combined into simple rectangles and L-shapes. We must avoid building up grand compositions; we are arranging homes not making monuments to ourselves.

Silhouette is an important problem with many flat blocks, because of their greater size and because the roofs are seldom pitched. Most pitched roofs are meaningless on tall buildings, because they can be seen only from a great distance. We can get the same effect from setting back the top

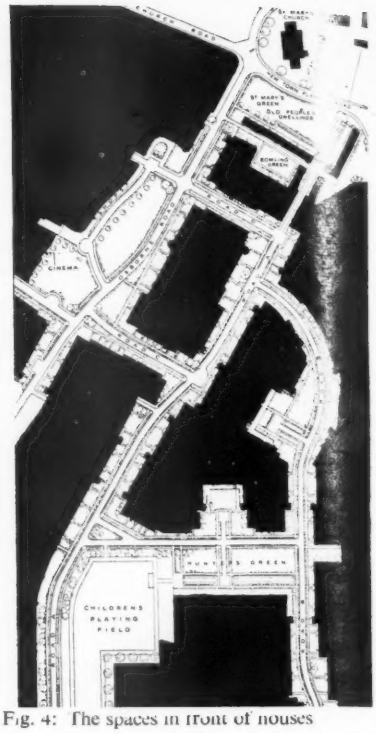


Fig. 4: The spaces in front of houses

storey. When we do leave the roof off we must regard our tank room, lifts and chimney-stacks as being part of the design, otherwise we shall get hidous silhouettes and our repose will be lost.

FLAT LANDSCAPE

On a flat site these simple geometric forms look best when related to each other in simple geometric shapes (Fig. 3). This does not mean that every building has to be at right angles to every other, or that the whole estate must be geometrically set out. There will be natural landscape areas in the neighbourhood which certainly do not want forcing into geometric forms.

SLOPING LANDSCAPE: building with contours

When the ground slopes we have another set of problems. On sloping land it is usual to let the roads follow the curve of the land and site the houses on them. This is economical in cost, and is æsthetically satisfactory, because the forms of the dwellings follow the form of the landscape and we get unity between them. But we need not be too exact. If we follow every contour line we may get so much variety that the street pictures would be chaotic. If there are good views from the slopes we may be able to use them in our design. We could let the buildings face one way and site them so that there are diagonal views between buildings; or, if the site is steep enough, so that one building looks over another.

Building against contours

When we build against the contours we have to resolve the conflict in appearance between the slope of the land and the horizontal lines of the elevation of the building. We should site the houses on an even slope

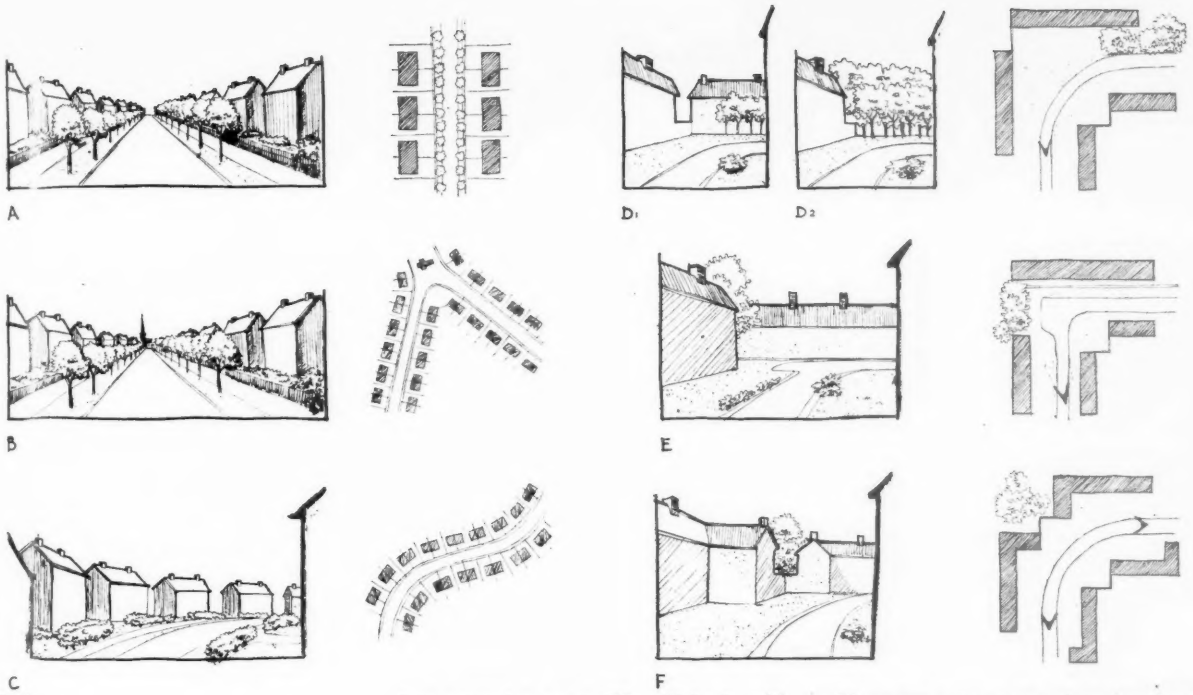


Fig. 5

so that we get an even rhythm to the stepped roofs. If the slope is steep we might set the houses at an angle to the road, or set them back one behind the other. This will reveal the end elevation which will have the pleasant appearance of climbing one above the other as we go up the hill. We can step up a symmetrical elevation quite successfully; but there are many possibilities with asymmetrical elevations when we set one house behind another. The party wall may be used to stop the end of the balconies, which sets up a very nice rhythm. Finally, we must be careful not to compose terrace houses in a symmetrical group across the contours as the slope conflicts with the symmetry.

Building on hills

In dealing with an actual hill, there is a terrific challenge to our imagination. In an urban area we have an opportunity to build up our dwellings to a grand climax, which should, of course, be some major work such as a church.

It is seldom that we have an opportunity of dealing with large units. Unless we can group our small buildings into a very definite continuous mass, we must keep them down in the valley. Never must they appear in silhouette on the horizon.

If we have a site with a very definite landscape shape, we should seize on it and exploit it in our design.

Space

We will assume first that it is our wish to build up our neighbourhood as a series of small groups, held together by the structure of our general design, rather than just to treat our roads as building frontage. We make a group by arranging our buildings around a space. We will begin with arranging small houses.

The street designed as spaces

The housing scheme by Mr. Kenyon for the Ashford Urban District Council illustrates the two main types of space that have to be dealt with, the enclosed private garden behind the house—an outdoor room—and the space in front of the houses consisting of the roads, paths, verges and so on (Fig. 4).

We have, then, two tasks: to screen our private gardens from view, and to compose street pictures, complete in themselves and independent of the backs. We have not just a lot of streets but a series of most interesting and varied building groups composed about the road pattern.

The average residential street with its 16-ft. or 20-ft. road is generally about 80 ft. wide between the houses themselves. As a long straight street it has little sense of enclosure. When planned in avenue form, with small trees in the grass verges and hedges in front of the private gardens, it has long straight lines. These lines run on into infinity; one never comes to rest (Fig. 5).

We need a focal point, but if the street is very long the focal point must be large. Unless we have some building such as a church, it will never dominate the horizon. The long straight street with the vista and the focal point is the characteristic form of radial planning. It is a very obvious form and is generally quite unsuitable for housing layout, as there are not enough churches or other important buildings to go round. Generally one can say that it is a monumental form more suitable for main town roads and not neighbourhoods at all.

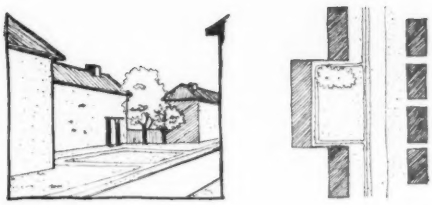
If we curve our street, then the view is closed and the space is limited. We have a more complete and intimate picture; but we are still led on by the curving lines of the paths and the road itself. A curved street can be interesting, but it soon becomes wearisome if the curves go on too long. We tire because again we never come to rest.

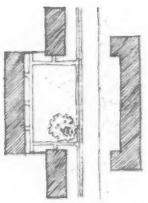
To stop the view completely, we have to build across the direction of the road or plant across it. I mention planting because if there were a clump of trees then the layout could be designed so that their form closed the view. From certain viewpoints the view is not completely closed, and to do this we could extend the end house.

Or we might devise a plan to give the same view in either direction. This may be rather restless, and needs some good strong planting in the background.

If in a straight road, or for that matter a curved one, we set back some of our dwellings, we begin to arrest the view. If we plan a good clump of trees in the space we make instead of the usual avenue, we arrest the movement towards the horizon and define the local space still further (Fig. 6).

The effect of the setback is to throw the end elevation of the forward house into prominence. Obviously we then throw away our standard elevation and design a house in which the end becomes the focal point in each visual picture. We might, for instance, enter the house on the end and use a gable instead of a hip, so that the composition is formed around the gable and porch. Incidentally, this would produce an interesting variation on the return elevation and help the appearance there. We might use a different colour and texture on the end to emphasize it; and obviously we





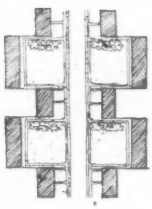
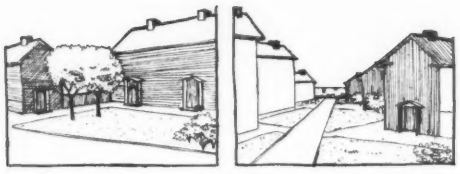
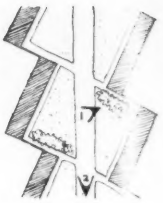
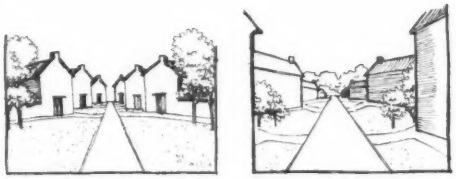
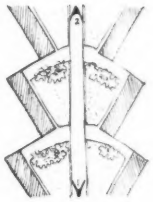


Fig. 6 (*above*) Fig. 7 (*below*)









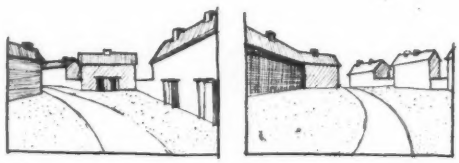
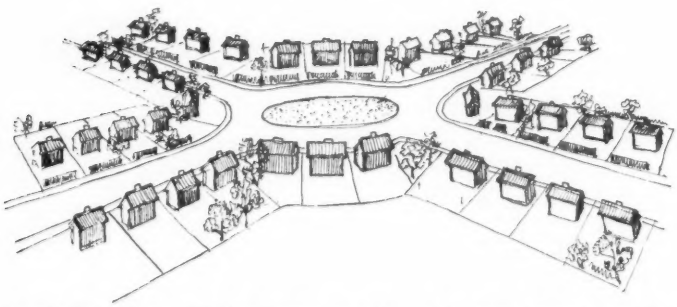
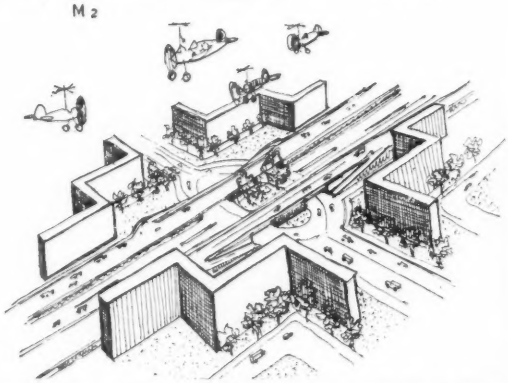


Fig. 8 (*right*)





should link the two buildings together with a screen wall or dense planting to hide the backs and pull the composition together.

We can, of course, expand on the other side to form a symmetrical group. If the road is a quiet residential one, this can be very effective; but if it is wide and there is much traffic on it, the road will bisect the square and we shall lose our unity. In a sequence this plan form is most interesting as we get a series of bottle-necks expanding into spaces. The effect can be emphasized by having private gardens in front of the near houses.

We can develop a series of closes with the buildings at an angle to the road. For example, the blocks may be parallel to each other but at an angle to the road. Living in the close we have the effect of being in a rectangle with the road running from corner to corner of it; but coming down the road we get a series of receding plans on the one side and receding end elevation on the other; a most interesting effect and probably too dynamic to be repeated often.

Another type of angular development is with buildings splayed out from the road in a fan shape. In one direction we get a series of receding end elevations. In the other direction we have a series of long façades. Here again the effect from the road is too dynamic to be repeated many times, and very great care is required in relating the various parts of the design to each other. We can develop the same sort of thing on curves. Apart from closes on right-angle bends, we can form them on gradual curves.

Spaces designed round street intersections

We need not spend long on the building up of street pictures around traffic intersections, because the subject has been very exhaustively dealt with in books on town planning. However, we must look at some examples, because it is so often regarded as a mere matter of how much building frontage one can get out of the corner. First and foremost, we must never group our buildings to form spaces around major traffic intersections (Fig. 7). With small dwellings, the buildings are quite out of scale with the space required for the intersections, but with large groups of dwellings, such as blocks of flats, the buildings may begin to get in scale with the distance between them.

The whole thing may look very impressive, but it does not work; the space itself is devoted to fast movement which disrupts it (Fig. 8). We can see these tremendous compositions only when rushing between them in our streamlined motor-cars or hovering over them in our helicopters. The pedestrian view is quite out of place. But, above all, the walls of our spaces are really homes. Homes should look on to peace and quiet, not noise and rapid movement. I expect we all agree on this, and yet proposals for grouping flats over fly-over crossings have actually been published.

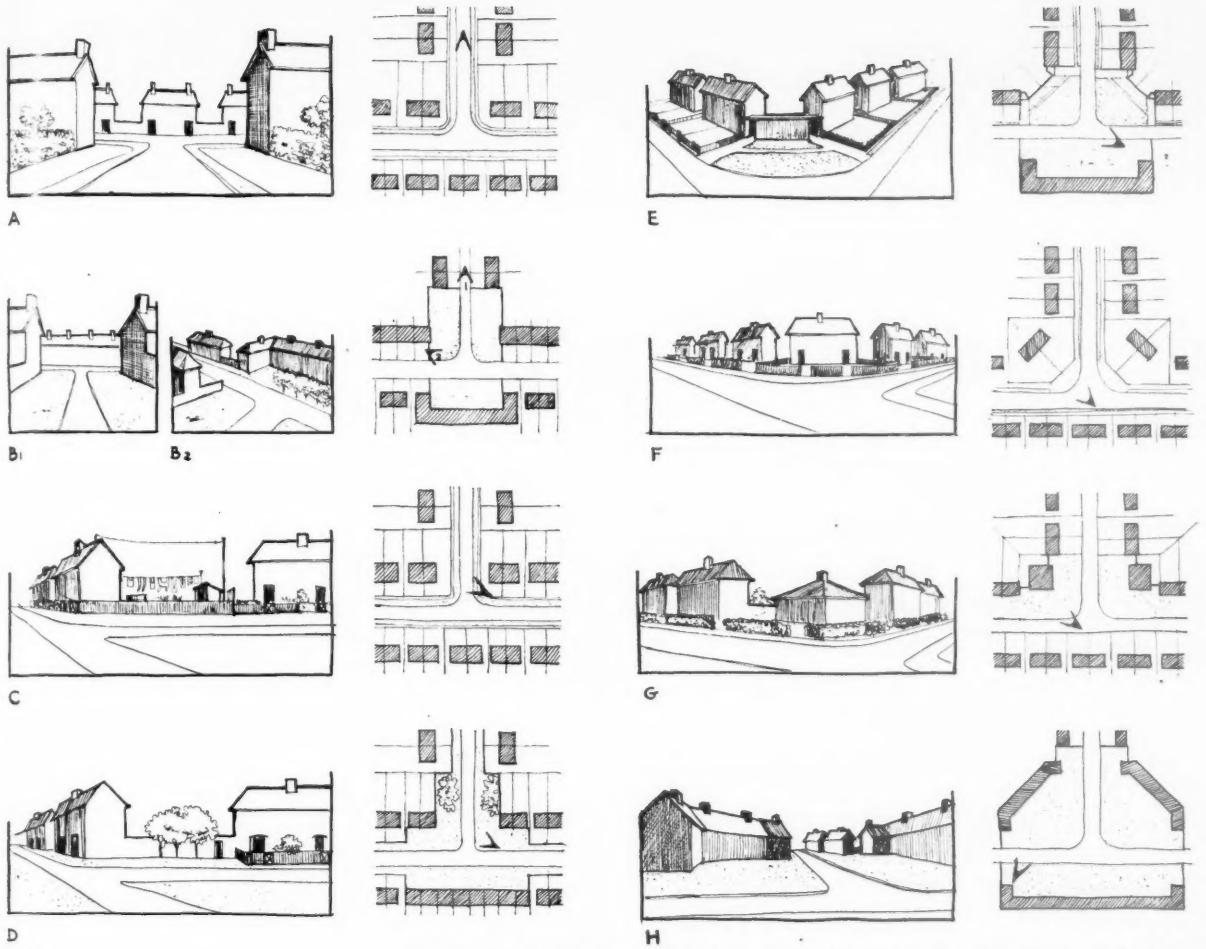


Fig. 9

In planning our residential roads we shall, for functional reasons, eliminate difficult traffic intersections. Cross-roads will be replaced by T-junctions, so that traffic on on the through road always knows it has priority over the road coming into it. Typical cross-road layouts with cul-de-sac back area development and series of monotonous corners, will be replaced by a road layout based on the T-junction, with great variety and interest in the road intersections.

T junctions

Let us examine a few typical methods of designing spaces around T-junctions (Fig. 9). First there is the simple problem of closing the view down the leg of the T coming into the junction; a semi-detached house on the centre line of the road is too small an element to close the view and give a sense of enclosure. Unwin was very concerned about the view of the backs of the houses as we come down the road. This is not very understandable today, because we have long given up the practice of designing pretty fronts and poor backs. We agree with Phidias who said 'The gods see behind also'. If we combine the houses into a terrace we have a much pleasanter effect. We could set the houses back behind the general frontage and plan the whole space as a unified close.

The difficult problem is to screen the private back gardens. If we just follow the frontage and stop the buildings on one road to give enough space for the back garden, we may get a nasty view of backs. A screen wall or dense hedge, and possibly some special treatment to the end elevation, is indicated. The view is improved by shortening the length of the garden. The private gardens in front of the houses are replaced by a common lawn. We could plant against the screen wall, providing, of course, it does not disturb the line of vision.

Another typical arrangement is when the angle is treated symmetrically. The two gable ends are symmetrical and should be joined into a unity by a screen wall which, incidentally, might also link up the entrance porches. A design of this nature requires very careful detailing, as it throws so much focus on the screen wall and the gap above it.

The easy symmetrical solution is to put a house across the angle. This seldom looks satisfactory, as the angle house does not express the corner as a space, but leads the eye round it. Furthermore, the house is generally a short one, and the gaps on each side isolate it and make a small element important. It is also unsatisfactory where a bungalow is placed in the corner. The bungalow has a quite different form from the houses, and because the roof is lower it confuses the picture. Again, because it is a change in design it becomes a focus. If it were superbly designed, like the bungalows Lutyens used for gate houses, it might come off; but generally it is too small and definite an element to place in such a conspicuous position.

If we feel that we must build up the corner with dwellings across it, then we could design a special block. There are many examples in Hampstead Garden Suburb, but the practice is ceasing because of the difficulties with orientation and getting satisfactory gardens.

Spaces at right-angles to the road

The most common type of street picture built at right-angles to the main residential road is the cul-de-sac. It is popular for two reasons: it is attractive to theorize about because it keeps the family away from all traffic movement; and it is an easy way of developing back areas. In America it is often the basic pattern for building communities or even towns. In theory the idea

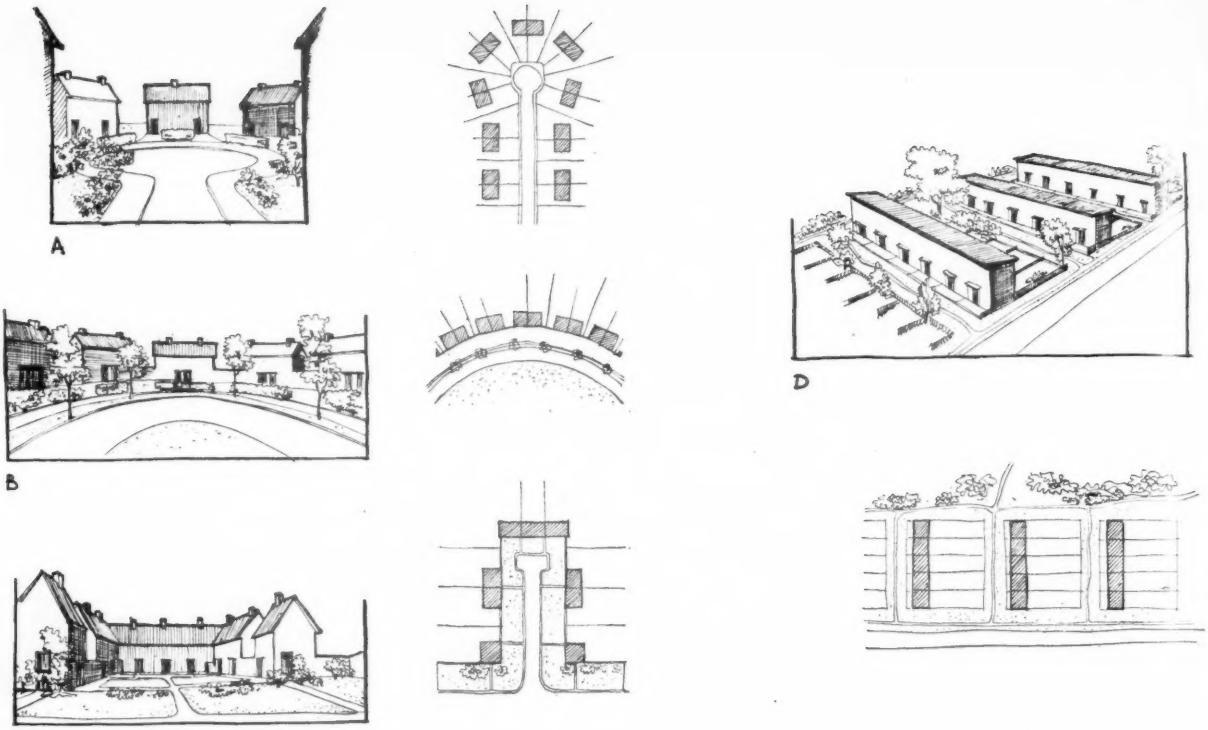


Fig. 10

is attractive, for the heads of all the cul-de-sacs are linked up with a general park system through which footpaths run. There is complete segregation of foot and road traffic. However, if we walked about inside the cul-de-sacs we should not be conscious of any formal or spatial values at all (Fig. 10).

Let us look at some details. The commonest type is a turning circle at the end of a long road. Small houses grouped round the circle are only a paper pattern; they do not take a circular form, but when we link them with screen walls the curve begins to take shape.

Perhaps it is best, because it is the simplest, just to arrange the buildings in a rectangular close with a short approach road to them. The houses at both ends can have direct views on to the road and open spaces and the intermediate houses can have diagonal views. The shut-off effect of the average cul-de-sac is eliminated.

A method of right-angle planning which is growing in popularity is a series of equal-spaced terraces. The front one looks on to the back of the next, and the footpath access serves both front door and the back garden. The orientation for each house is the same. It can look very attractive indeed, and it has appeared recently in many plans. Obviously it is a dangerous layout, as the private gardens are exposed to view. One has to take great care with the design of the screen walls, and has to prevent a tenant putting up unsightly sheds. If the gardens get large the grouping will disintegrate.

Spaces independent of roads

When the open space around which we group our dwellings gets really large, it becomes dissociated from the road which serves it. We do not begin with a road and extend it into a close; but with the space itself and then serve it with the road. In its simplest form the composition consists of dwellings grouped round a simple shape like a rectangle, and a road or path run to them. With urban development the dwellings should dominate the squares, such as in the squares of Bloomsbury. In rural schemes nature is the dominant, and the green itself or a clump of trees become the central feature. In suburban schemes there is generally a balance between the landscape and the building. The many excellent closes and squares on L.C.C. estates are typical.

Many designers have felt that even a service road cuts the house off from a communal open space, and propose that the garden elevation of the house should look on to the open space. Obviously the garden must be small, and obviously it must be specially designed to form a link between the house and the open space. In an example at Coventry by Donald Gibson, the City Architect, the houses have been specially designed so that the living-rooms form a link with the communal open space. The landscape flowing up to the living-rooms in this way could be very pleasant, but obviously you cannot plan a complete estate on this principle, as many people want a private garden.

This example is interesting because it illustrates the tendency which is growing in Europe and America to get far greater fusion between the dwellings themselves and the open space. The idea is to bring the landscape right up into the living-room, so to speak. In an example at Nuneaton designed by R. C. Moon, the Borough Engineer, and myself, the spine of the scheme is a valley with a little brook running through it. The valley is left as natural landscape, and the dwelling groups at each side are arranged in wedge-shape so that the landscape flows up between the houses. The wedge-shape also helps to screen the views of the back gardens from the valley.

Spaces formed with flats

With flat development all our difficulties with private gardens and access to the front door are over. We have now given up such stupid layouts as the totally enclosed courtyard and the built-up street picture. We compose our blocks into simple geometric spaces. There is an example at Liverpool by the President which is simple in basic form but subtle in the arrangement of the various spaces. It is not just plain rectangular spaces, but an interplay of different volumes; what students choose to call an 'interpenetration' of space.

You may have noticed I said simple geometric spaces; not geometric patterns for the sake of making patterns. The reaction against the closed courtyard plan, with its overshadowing and bad orientation, may put too much emphasis on the parallel block form. A long series of parallel blocks with correct orientation and angle of light between them may be the perfect scientific

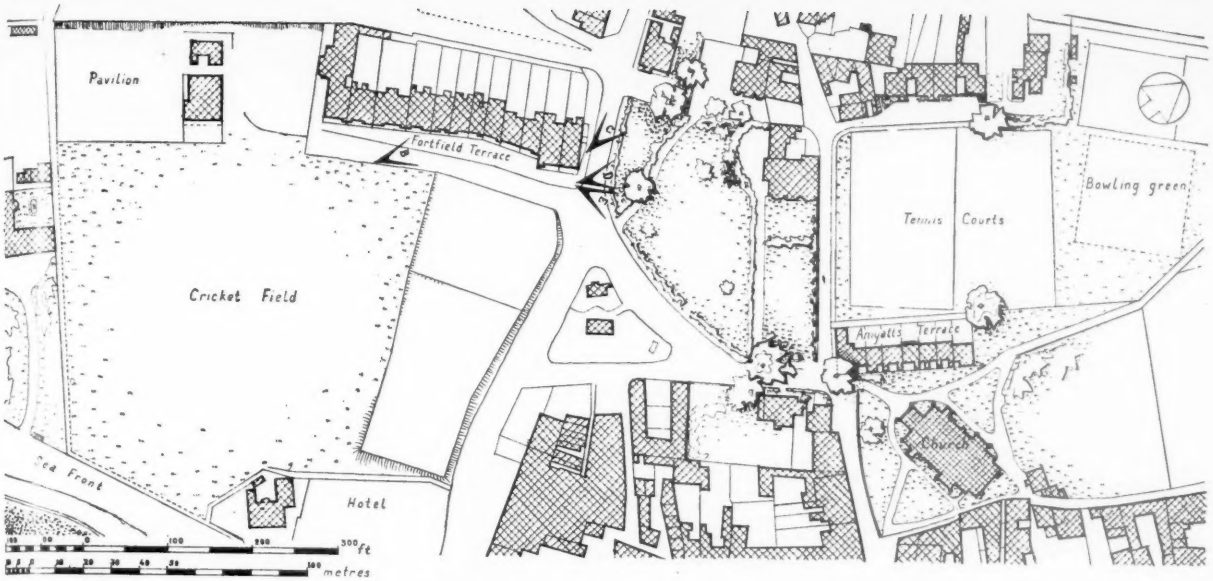


Fig. 11: Sidmouth

solution, but spatially it is bad, because the views through open ends are too open and the space is not defined. Furthermore, when the blocks are long the people in the centre flats get only a direct view of buildings opposite. There is the same shut-in feeling as the totally enclosed courtyard. Just four or five short blocks are not sufficient to become boring, and can be happily placed in a series.

Immediately we build at right-angles to the parallel blocks we define the space and the effect becomes far more satisfactory. We might close up one end of the two parallel blocks to form a U shape. There is a successful application of the U at Copenhagen. The open end looks out towards the sea and the view. Or we can form a series of continuous U-blocks.

You will have noticed that in both the last examples the open end of the U is wider than its depth. Where the U is a deep one we get an unpleasant feeling of confinement. In a scheme by Le Corbusier the blocks are strung together in a most interesting geometric shape; but, like most of his work, it is hopelessly out of human scale.

If we are very clever we may be able to get away with a complex group. In Sweden there is an example where the basic flat plan is a three-pointed star. On the edge of the site the star plan is built as free-standing blocks. On the inside of the site they are composed into a series of hexagonal cells. One block is left out to give a view and to avoid the shut-in feeling of the courtyard plan.

Mixed development

Some of us feel that we build too many large areas of just houses, and too many schemes of just flats. Although we observe the principle of unity, we get nothing like enough variety in our schemes. Not only is it desirable to have strong contrast between buildings and the natural landscape, but we should build to a medium density with contrast in the buildings themselves. The housing would then be to an even density and sharply contrasted with nature, and not in pyramidal form.

It is becoming a general practice in planning a neighbourhood to put some bungalows in for old people, and some flats next to the shopping centre. It is then called mixed development—a few islands of flats and bungalows in a sea of semi-detached. As I see it, mixed development consists of planning the complete area as a whole series of visual pictures with variety in each, and unity within the whole. I can best indicate what I mean by a traditional example. In Sidmouth (Fig. 11), behind the sea front, there are four main spaces: a cricket field on the left, a small putting green next to it, a narrow garden in front of the library, and an area of tennis courts on the right. The sea is to the south, the hills close the area on the east and the north. On

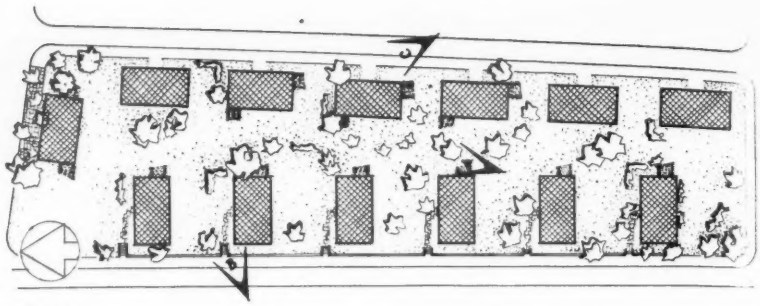


Fig. 12

the west are large hotels. There is thus a series of small spaces plus broad views. We have the intimate view and the wide panorama. The screen of terrace houses, which may be regarded as high-density building, have gardens behind but more in front. They thus form a screen to the field and are united with it. In contrast, we have the putting green in front of the Council House, an intimate enclosed space with a wider prospect closed by the church and hill in the background.

North of the tennis courts are Gothic revival, semi-detached houses linked by screen walls, with large detached houses on each side of them. The drive sweeps right up to the houses, and flowers grow under the windows. On the south a lovely terrace of cottages with access from the back, and small enclosed gardens facing the open space. On the right this composition is closed by a large detached house and on the left by a tree. The whole is dominated by a church tower and forms a magnificent composition.

Next to the church we have all kinds of open space. We have enclosed gardens behind dwellings, we have small private gardens in front of dwellings, and we have dwellings with no gardens in front of them at all. We have great variety in building height, great variety in density, and variety in the types of buildings. We have variety in texture and colour. In fact, here are all our raw materials used to make an exciting series of visual pictures. It has, of course, defects; the spaces could be much better determined by more building. But I suggest it is more interesting than some of the development that is now going on.

A modern Swiss example (Fig. 12) consists of a loop road with three-storey flats and terrace houses outside it, and a series of small groups of terrace houses and detached houses inside the loop. Access is by footpath and there is a very pleasant landscape between the buildings.

DETAILED DESIGN

Our site planning will have life and vitality through the design of the small details and through the careful selection of texture and colours both for vertical and horizontal surface. Apart from giving the scheme quality, they provide, as I pointed out previously, a secondary visual picture on a minor key to the broad grouping, what one might call the intimate view. To obtain repose, we design our buildings as broad flat planes, and if we contrast them with well-designed small-scale objects, both will gain enormously (Figs. 14, 15).

Details which read two dimensionally are important too. I know that they are considered to be a debased form, but is not our building today so very serious that it would be all the better for a little entertainment, a little foolishness of this kind?

And what about such things as fences and gates? Dogs are illiterate and children will run wild, but does it really matter if some grass gets worn and some trees are climbed? Surely not, compared with shutting in our horizontal planes behind concrete and chain-link fences, like prisoner-of-war cages. The little brook running besides the footpath in Tewkesbury has no fence at all (Fig. 13). Is it so very dreadful that someone may get their feet wet? Of course not, compared with the pleasure we have from a unified design.

Through colour and texture the surfaces of our forms obtain life and vitality. Let us study the wonderful variety of textures in our small towns and villages, and try them out in our housing schemes instead of being content with the concrete slabs and asphalt.

Colour is not just a question of painting houses so many cream, so many green; it is part of the complete composition we are making. It would take another lecture to examine colour theory, but perhaps you will allow me to give a short list of points which might be regarded as hints and tips.

(1) When we compose a building group, we should work out the colour scheme in perspective as a picture; thus the colour scheme in one building might be very cold, but would be contrasted with warm tones in an adjacent building.

(2) We should remember that the predominant light in England is grey. We do not have the sharp blacks and whites of the Mediterranean, and we should therefore use colour to define and express our shapes, independent of the sunshine.

(3) We should use colour in flat planes to define the forms of the building, and these planes should never be bright primary colours, or they will look cheap.

(4) We should aim at a good contrast in tone in the planes of the buildings or between different buildings in the group. For example, a composition all in light tones, such as rendered walls and an asbestos roof, lacks contrast; but if we put a dark brown roof on the appearance is improved immediately.

(5) We should remember that there are more colours on our palette than chocolate brown, cream and green. There are all kinds of subtle colours like the different shades of putty, beige, pink and grey, and most of them can be obtained in permanent materials such as brick, rendering and tiles.

(6) A composition generally looks more satisfactory when the roof is darker in tone than the walls; it gives more definition to the silhouette and more repose.

(7) We should remember the words of the French painter, Delacroix: 'Always the white'. Notice how Georgian brickwork glows through the white sashed windows, and how dull our houses look when we paint our windows a dark green.

(8) Bright colours in small areas can give points of interest and excitement in the visual picture, but bright primary colours should never be put on details which might confuse the form of the building. For example, a bright red or blue gutter and down-pipe confuses the junction between the roof and wall planes.

(9) Lastly, do not use the word 'maintenance' as an excuse for not working out an interesting colour scheme. There are all kinds of exciting permanent colours waiting to be used.

CONCLUSION

I am very conscious that I have only skirted round some very elementary problems, which are very well known to the many distinguished people here; but, as I said in my opening remarks, I feel that we do not make enough use of elementary principles, let alone developing them into compositions expressive of our time. We are not using all our raw materials or all the talent that is available. Let us forget the word 'housing', and regard the problem as the tremendously exciting one of making a new environment.

Fig. 13

Fig. 14

Fig. 15

DISCUSSION

Mr. Richard Sheppard [*F*], who said that he had listened to the paper with increasing admiration, commented on what Mr. Gibberd had said about the need to secure the co-operation of the tenants and remarked that it was not sufficient merely to provide a plan which was æsthetically satisfactory; the people who were going to live in the place must be able to understand and appreciate the pattern involved. Before the war, all sorts of patterns of living were superimposed on people by architects.

Our time-honoured method of dealing with colonial problems had been to set up a colony, say in America, and then leave it to fend for itself. In the same way, some local authorities before the war set up their housing estates; but whereas the people who went to a colony were generally adventurous people who wanted to go, the local authority often took the least adventurous and self-reliant elements of their population, dumped them on the outskirts of the town and left them to fend for themselves, providing simply the houses and a few services.

The great problem to be faced, after satisfying the requirements which Mr. Gibberd had laid down, was that of what it was fashionable to call today public relations. The architects, the housing managers and others connected with housing had to get together and carry what was being done into the minds of the people who were going to live in the houses. That was an exceedingly difficult task for all who were concerned with it. They did not know, before the houses were built, who were going to live in them, and so could not get at those people and explain the development which was being proposed for them, discuss it with them and find out their reactions. There ought to be ways of doing that, and many of the social services might be used, and in some cases were being used, in that way.

It was also necessary to carry on a kind of after-care, to have not merely pre-natal services but a continuing interest in the newly-born community. That had to be done very carefully, and machinery had to be found for it. An obvious example was that of planting, either new or existing. Tenants often complained that trees were too big or that they overshadowed the living-room or that children were swinging on them. If there were some after-care association, it could explain that the trees, which might actually cause some slight inconvenience to a tenant, were there for the benefit of the community as a whole and formed a part of the design. Such an association could also deal with jealousies aroused by the fact that gardens were of different sizes, and could overcome the problem of garden strips.

In regard to planting, many local authorities were unadventurous. They usually knew long before they started building where the houses were going to be, and often the roads were laid out before the houses were built. In many cases planting could be done long before the buildings were commenced. One could build within 15 ft. of the centre line of an existing tree, and where the tree had been recently planted one could go closer than that.

The cost of planting today was high; local authorities with a big housing problem might consider establishing nurseries to get trees and hedges growing, so that they could be transplanted to estates when of a fair size, thus shortening the time-lag between the establishment of a community and the time when that community matured.

With regard to the monotony of which the Minister complained, he felt that architects were often blamed unjustly for a problem over which they had very little control. It was all very well for the Minister and others to throw the 18th century in their faces, but in the 18th century most of the planning was done for a very small proportion of the population, and there were only 10 million people in the country, in any case. It was now necessary to house 50 million people, most of whom, for some inscrutable reason, wanted to live in a semi-detached house. Given those conditions, which it was necessary to accept, the problem was totally different. In the next few years there would have to be far more experiment, both in methods of planning and in methods of living together.

Mr. Arthur W. Kenyon [*F*] said Mr. Gibberd had shown very clearly that the new method of planning for homes and dwellings was something very different from anything that had been done before, and had emphasized the fact that the provision of dwellings was one of the most important and difficult tasks which the architect had to do. Churches, town halls and public buildings generally were bound to come out all right if architects were employed and spent a great deal of time on them, but housing was very difficult indeed, and he had always been anxious that young architects should make a very careful study of it. This new method of living, as Mr. Gibberd had shown, could not be left to chance; it had to have the very greatest skill applied to it, and therefore he would plead with local authorities and with all who had to do with housing to take great care to see that they were properly advised on the very many new aspects of planning.

Much had been said at the Conference about open layouts—open verges, open gardens, and so on. It was often said that this would not work, because people would not look after it and would walk across it. He did not believe that that was so, because he had had experience as architect of Welwyn Garden City. The people there were very proud of their open gardens, and any outsiders who did not respect them were quickly told by the residents that that was not the way they lived there. It was a question of education. It was no use saying 'It can't be done', because it could be done.

Councillor Norman Howard (Richmond Borough Council) agreed with Mr. Sheppard about the importance of extending a knowledge of what had been discussed at the Conference to the general public who had a vital interest in housing and in the very great changes which were taking place. He would like to feel that the story was being got over to them. Members of borough councils like himself found it difficult, and architects would feel that it was not their job, but it was worth while seeing what could be done. He would suggest, for example, that the very interesting debate between those who liked terrace houses and those who preferred semi-detached might form the subject of a radio discussion.

There was a very real danger of people feeling that they were being planned for, and not understanding the why and wherefore. They felt that the planners were run-

ning away with them. The public must be educated and made to understand what was being done. There were too many blueprints and not enough pictures, too much information in the technical press and not enough in the popular press. 'Unless,' he said, 'the public understand what we are about, they may turn round and bite us.'

Mr. I. G. Foster [*A*] emphasized the need for colour, and for trying to develop a 'new look' in architecture so far as colour was concerned. In the past, he said, there had been far too much 'local authority invisible green' both in schools and in other buildings. It would lie with the children of the future to respect or to destroy the estates which the architects gave them, and they should receive some education at school in the appreciation of colour and to give them some understanding of what architects were trying to do for them.

Alderman C. E. Pollock (Bridlington, Yorkshire) said it was obvious that a new spirit was coming into architecture. The cream of the architectural profession was represented at the Conference, and he would suggest that the rank and file of the profession could do with a refresher course. As chairman of a housing and town planning committee, he was sometimes amazed at the things that were submitted to them by architects, and it was those architects who were dealing with the general public and who needed to be infused with this new spirit.

Councillor R. E. H. Moulder (Gloucester) said that when the invitation of the R.I.B.A. was received the question arose of whether he, as a working railwayman, would benefit by attending the Conference, but in fact he had derived great benefit from it. The city architect of Gloucester made contact with the various men's and women's organizations and the schools in the town to explain what was being done; if borough architects and engineers would make a practice of this, the work of the Conference might bear fruit, and the people who went to live on the new estates, who often came from slum areas, would appreciate what the local authorities were trying to do for them.

Councillor Mrs. M. J. Platten (Morecambe and Heysham) said Mr. Gibberd had set before the Conference a great ideal, which they must try to follow. She had been particularly interested in what had been said with regard to colour, because she lectured on colour and its effect on mind and body. Women liked variety in dress because they had a different feeling when they put on a different frock, and men felt the same thing, though they might not have known why. We carried about with us our environment, and when we had lovely colours in our homes and on the outsides of our buildings, and had carried out all the wonderful ideas which had been put before the Conference, we should all feel the effect of it.

It had been said that it was necessary to educate the children, but the first thing to do was to educate the housing committees.

Councillor Blacklaws (Chairman of the Housing Committee, Perth) said that in Perth it was hoped to own municipally, within four or five years, at least half the dwellings, and for a city with a population of 42,000 that was no mean achievement. They had two housing estates at the moment, one of which, which was well towards completion, was situated in one of the most delightful parts of Scotland, with the Grampians all round. The houses had been specially designed by the architects to fit in with the contours. The war put a stop to development, and then after the war the Government offered them prefabricated steel houses, and if they had turned them down they would have been about 350 houses short. Unfortunately they did not fit in with the scheme.

Councillor Miss M. L. Sharp (Holborn) remarked that much had been said in the last two days about the ruin done to the countryside by the speculative builder, and she would like to emphasize the importance of local authorities taking under their wing not merely the design and layout of their own estates but the provision of some kind of advisory service for the speculative builder, who might indeed interpret the desires of the public successfully but who unfortunately ran behind the times, and who instead of giving a lead in design followed what Osbert Lancaster called 'Stockbrokers' Tudor'.

The President said that the papers read at the Conference would be published in the JOURNAL of the Royal Institute, the circulation of which, unfortunately, was limited. Negotiations were taking place for a paper allocation which would enable the publication of the papers to be made as separate documents, and if those negotiations were successful the papers would be so published and would be obtainable.

Mr. Gibberd, in reply, said he regarded the many interesting points made in the discussion as an extension of his talk. He had been astonished by the humility of some of the local authority representatives who spoke. It was nonsense, really, because they were the new aristocracy who were responsible for the development of this country.

Neighbourhood Planning in New Areas

By Miss Judith G. Ledeboer [*A*]

The President in the Chair

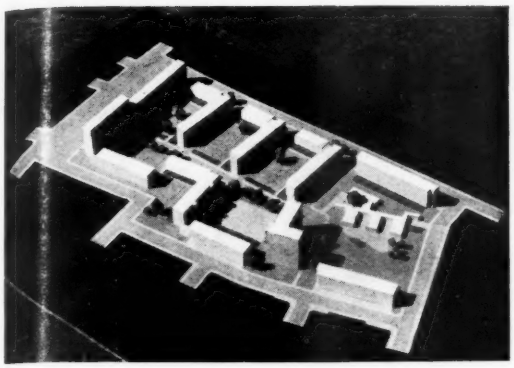
Miss Ledeboer said that she wanted to consider the ingredients of the neighbourhood unit, in particular the social ingredients which might test the value of the various proposals which had been put forward. There was now adequate material available to allow this to be done.

The ready acceptance of the theory of neighbourhood planning was astonishing. Neighbourhood units cropped up in all planning literature and many local authorities were proposing them. Neighbourhood unit theory assisted the visual conception, about which Mr. Gibberd had spoken, and attempted to assemble within an area all the ingredients for which provision had to be made. In fact, the neighbourhood unit was being accepted because it was a combination of social ideas and technical efficiency.

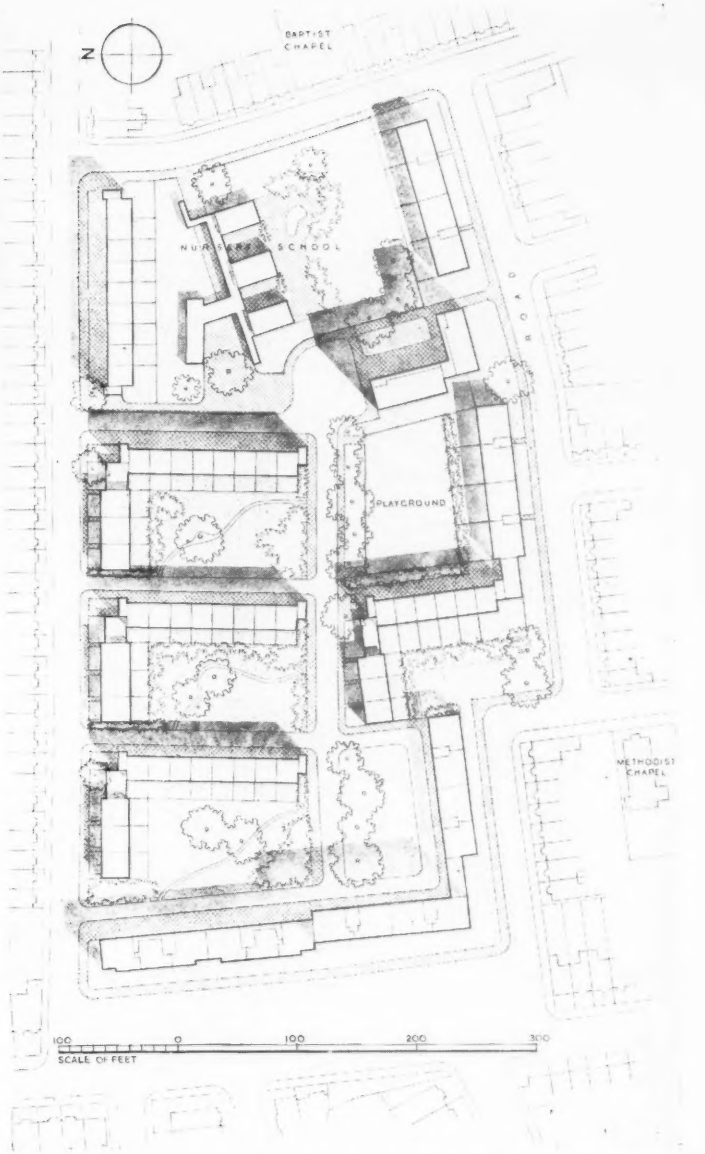
The ready acceptance of the idea was also probably due to the fact that there was now a definite agency which could plan a neighbourhood unit. Before the war, there was none, or rather there were two, but they did not combine. Private enterprise and the local authorities had worked separately and for special classes. Today, the local authorities could act as direct developers of the land. Their responsibility accordingly was very great.

It was still frequently left to the architect to suggest a programme of development. The chances were that an architect would be asked to provide a certain number of dwellings, given a site and told to get on with it. A little imagination and interest in social problems on the part of the local authority would help the architect to find a better solution. A survey of requirements was essential and those requirements were no longer limited in scope. The local authorities were now in a position to house the old, the young, the lazy, the energetic, the cleanly and the slovenly and all had to be assembled into one picture—the neighbourhood unit.

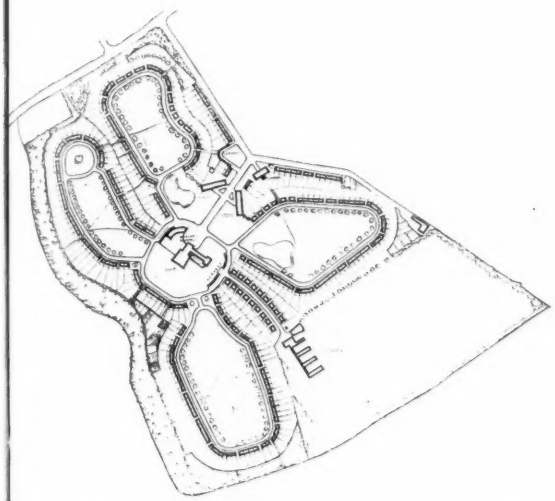
Miss Ledeboer continued: Suppose that you, as a local authority, have to house an overspill of so many thousand people, and you want to find a site. You have the prospect of controlling the area over a large range round the outside of your town, and you have to find for this overspill a site which will give them easy access to the existing town and to the industrial area. There is probably a zoned industrial area, and there is a main commercial centre to which access must be provided from the new site. On the proposed site there will be trees, streams and other natural features, as well as existing development, fields and lanes, and all those you will absorb, but what will determine your site will be the ultimate boundaries. There may be a railway beyond which you cannot extend your community or a ring road with its fast traffic which suggests that you must not extend the community in that direction any farther. Those are the natural boundaries of the site, and it is not worth trying to bridge them; as planners you must accept the natural conditions, whether they are man-made or not, and as planners you will be able to provide a solution within those boundaries. The boundaries which I have mentioned, you will notice, are largely those of traffic.



From the exhibition. Model and plan of a scheme of flats and houses for the Lambeth Borough Council. Booth and Ledeboer [*AA*]



From the exhibition. Scheme modelled on Reilly greens, part of Bradley Estate for the Bilston Borough Council. Clough Williams-Ellis [*F*], M.T.P.I and Lionel Brett, M.A. [*A*]



What about size? With the present theory of the neighbourhood unit, the size of 10,000 which is often mentioned must be treated as an illustration only, though I am afraid that it is often regarded as the last word. A neighbourhood is conceived as a residential area in which people can meet each other easily, so that they are inclined to become a group. It is suggested, therefore, that a radius of half a mile is a convenient one. If a woman wants to go to see a friend, she will not mind going half a mile, but she will hesitate about going a mile, if she has to walk. According to social grouping theory a radius of about half a mile is convenient for movement.

The neighbourhood unit, however, is also being built up on the school theory, namely, that in a residential area it is the schools that bring people together. The figure usually quoted in planning literature is again 10,000, as being a convenient number to support two secondary schools. That figure is based, of course, on the arrangements to be made under the new Education Act, with a school-leaving age of 16.

While that is the generally-accepted theory, it must be remembered that in any large town it may be considered desirable to divide these schools into grammar, technical and modern schools, and children may not find the particular division to which they are to go within their neighbourhood, so that inevitably there must be some going to and fro of the children in secondary schools. In my view, the secondary school is not necessarily the basis for the development of neighbourhood units. There will be secondary schools related to neighbourhood units, but they will not be the core round which the unit is developed.

Moreover, when social requirements are related to visual requirements you find that a secondary school is not a very easy thing to bring into community grouping, especially now that the Ministry of Education are encouraging such astonishingly wide and straggly plans, making something which it is very difficult to hold within one's view. The present tendency in school planning is, I venture to say, very nearly anti-social, because you cannot take in the size of the school at a glance; it is not cosy. It may become necessary to reduce the size of the school or to raise its height so that the secondary school can again be brought within the community as part of it.

From the exhibition. Housing at Little Neston, Cheshire, for the Neston U.D.C.
C. H. James, R.A. [*F*] and S. F. Bywaters, F.R.I.C.S.

The junior school is much more likely to be the core round which the community will centre, and it is when the children are at the ages from seven to eleven that the mothers are more likely to meet each other. The junior schools in many respects would seem to be the more suitable unit. One junior school is supported by a population of 5,000. That children should not have to cross traffic roads is very important, and an area of five acres with a small building is not a difficult visual unit round which to group.

I make this reference to schools particularly because you will find that where existing communities have already established schools, there is frequently a strong school tradition which runs across any neighbourhood unit design. In Bath, for instance, there is a very strong element of specialization in the schools; the schools have special tendencies, and you will find there school attendance cutting across any neighbourhood conception. I believe that the same is true of Edinburgh, where the parents very rigorously exercise their right of choice of school for their children.

What other things bring the residents together? It is obvious that the shops do. The shops and the shopping centre provide the most important element in the design of the neighbourhood. It is there that your communal relations really start. The school basis for the theory of the neighbourhood unit has been built up round a children's community; it affords an inadequate conception of a neighbourhood unit in which adults are going to live.

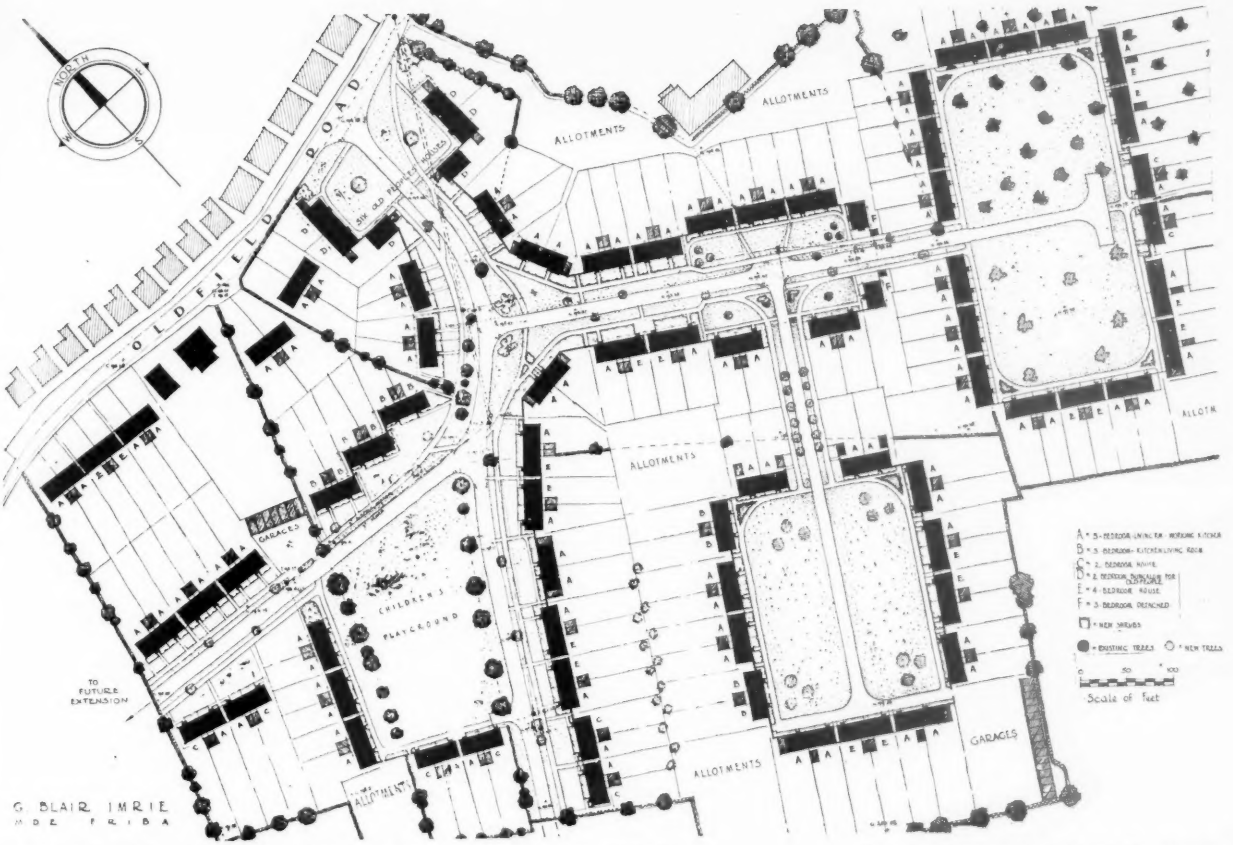
There is a strong tendency for shopping centres to develop in older and existing communities at a distance of about half a mile from each other, and this shows that the smaller neighbourhood unit tends to be preferable to the bigger one. I would maintain, therefore, that it is better to substitute a series of smaller neighbourhood units for the larger ones, though it would be foolish to suggest that a population of 5,000 is a necessary limitation. In practice, those authorities who are thinking of building neighbourhood units do not suggest any particular size. Manchester, for instance, is providing units ranging from 3,000 to 20,000 in population. In Bath, some of the existing communities are being planned at 3,000 to 8,000. The figure is related to local circumstances. I suggest that for many of the smaller local authorities it is the smaller unit that requires consideration. It is more manageable; the designer can make it more personal, more human. When it comes to the contract stage, the problems are not quite so vast. You can see your results much more quickly, and the housing manager, when it comes to placing the tenants, has not quite such a vast area to handle. The smaller unit assists in promoting more immediate social relationships.

We leave the question of size open, but you have a number of ingredients on which to base your idea of size. The next thing to decide is access. There must be the best access possible to the main centre. The main shops, the cinemas, etc., will be found, and the main social events will take place, in the city. People will meet their friends there, and they must be able to get there by bus easily. It is also important to provide good access to the industrial area or to any other working area. This is often difficult, because it is likely to mean crossing arterial roads, and it is likely that the industrial zone will have been planned in the master plan surrounded by important ring roads.

Next, access to the country is very valuable. It is frequently found, when attaching one neighbourhood unit to another, that access to the country from the inner one tends to be cut off. Good access to the country must be maintained, particularly now that the five-day week allows people to get about more.

You will absorb all the existing development in your plan. Do not try to get rid of it; accept it; welcome it. The big houses which remain on the site may be used for hostels or for schools of some kind. I need hardly mention that you have to keep the trees.

Having in this way prepared the main lines, the backbone, of a development, the next most important decision is where to put the shops. They have to be readily accessible to everybody, and preferably in the direction in which people are likely to go when they are going to the main town. The woman who has got her children off to school will go into the town with her ration books, and she will probably pick something up on the way. This business of picking something up on the way is an important item in the decision. I think you will find that the most natural reaction is to place the shops a little nearer the main town



From the exhibition. Oldfield Road housing scheme for the Westbury U.D.C.
G. Blair Imrie, M.B.E. [*F*]

centre than they would be if they were in the centre of gravity of the unit.

The number of shops that there should be is still a matter of considerable study. At present it appears that one shop tends to serve 50 to 70 persons, but that in the new towns and on new housing estates the proportion drops to one shop to 150 persons. You must remember that in the background is the central shopping area of the city, which is where most people will go to get their clothes, special presents and the things of the greatest interest. It has been suggested, therefore, that two-thirds of the shops should remain in the main centre, but a neighbourhood of 10,000 will require 70 to 80 shops, and to that should be added some shopping sub-centres. Alternatively, with a smaller neighbourhood unit you may want 30 to 40 shops, and you may not require a sub-centre.

All these are very big and still undetermined items. The main interest of the whole problem is that you can experiment, and you will constantly be making changes. Shopping areas may have to be expanded. There have been many designs for shopping areas recently which have tended to confine the area and not allow for any expansion.

The shopping centre will break up the possible monotony of the residential area; you leave two-storey development and come to a single-storey or three-storey shopping area, and you at once get variety, interest, an assembly point. It is here that you can begin to feel a new atmosphere, a new interest, coming into the whole scheme of the residential neighbourhood.

I should like to make a plea for informality. Many shopping centres built nowadays are very formal; either they run in two rows, and are given a little more importance by some central planting in the middle, or the approach is on a great axis down which the woman has to walk to make her purchases. The formal approach is out of place. The unit is the woman with the pram, and the woman with the pram is not interested in symmetry; she is interested in getting quickly and directly from her home to the shops. Any form of deliberate balancing of units is likely to disturb her feeling of being in the place where she wants to be.

It is important not to have a north-east wind blowing her out of the door of the shop. The woman with the pram will leave her baby outside while she goes into the shop, and she likes to put the pram on the south side, where the child can get the sun. If you build your shopping centre so that the north wind blows down it and the shadow comes on it, she will not welcome it. It is well known that the north side of a shopping street usually does the best business because it gets the sun. Most commercial interests like the two-way rather than the single line of access, but I do not believe that that is a necessary requirement. If you make a cosy shopping centre where a woman can leave her baby and wander round, you have done your job. It is a question of making it attractive. You can put shops on both sides of the road, but not on the opposite side of a street running at right-angles, because if you do that one side will be successful and the other will not. A good shop on one side will attract people, and they will not cross to go to shops on the other side. You have also to be able to get the bus at the shopping centre. In some of the most successful schemes, the shopping centre is at right angles to the bus route, so that the traffic does not go through the shopping centre but is adjacent to it.

Miss Ledeboer said that associated with the planning of the shopping area was the problem of the inevitable backs of the shops, with their service roads and garages. The backs of shops had traditionally always been unattractive: yet somehow they had to be brought into the scheme. This was really a part of the general provision of services and she thought it was desirable to bring as much small, clean industry as possible into residential areas. Provision had to be made

for the builder, the laundry, the bakery, etc. Trade and industry of this type often provided work, possibly half-time work, for women whose children had grown up and who were anxious to earn money. Some working activity should be provided for women of this type in the residential areas.

The various community buildings, such as the library, the clinics and the police station, should be somewhere near the shopping area. A cinema would not be necessary because the chances were that one got a much better programme in the town, where there would be several cinemas giving a variety of choice and the weekly outing to them could be made by bus. Public houses would also be required and they should also be reasonably near the shops. The use of the pub in the sub-centre was also valuable from a visual point of view. It meant another building in the housing street.

The community centre was a more difficult subject. The pub was an accepted centre, but the community centre was still one about which there was very considerable doubt. Some people believed in it whole-heartedly, but others said that people did not want to get together. The fact was that both types of person had to be provided for. It did not matter if some did not attend the centre, but it was obvious that a vast number of people wanted to join dramatic societies, beekeeping societies, etc., and to argue politics. At the early stage of planning one could only provide the necessary space. When the time came to build and a Board of Education grant could be obtained, various clubs could be brought together and, though it might have been visualized as a grand building, one might find in the first stages that the social centre was no more than a shack or a group of shacks. One could not tell what the result would be: one had to wait to see whether it would work.

She believed that the shopping centre would always be the main attraction. The community centre should be near the shops but have a little open space in relation to it, such as a common where cricket could be played or where children could play. The sense of the community of interest of the village green would be provided and, if the community centre did not turn up at all, one simply had a larger open space instead.

She thought it was wrong to bring the church into the central group. In many plans the churches were related to the shopping centre and the community centre. Nowadays the churches served only about 10 per cent of the population and did not play a very great part in community life. Perhaps, if churches were placed centrally they might contribute more to community life, but she thought they had no functional relation to the shops. The shops were closed on Sunday and the woman who went to the shops every day of the week did not want to have to pass those shops in order to go to church. There should be another centre, or form of grouping, round the church. It should be thought of in relation to the ceremonies which were to take place there, such as people bringing babies to be christened, weddings (usually on Saturdays) and funerals. She knew that today it was the theory that people should be cremated, and not buried near the church, but they ought to think of a new way of bringing back into the community the memory of the people who had lived in that community. She was sure that the village had always been enriched by the fact that one could wander round the churchyard and look at the names of the people who had lived in that neighbourhood.

On the subject of roads and minor streets she agreed with Mr. Gibberd that we did not want too many straight roads, but, while we wanted them curved, they should be curved in moderation. The main object in a design of a road, as a means of going from place to place, was to give a sense of direction. When the woman with the pram had to go from one place to another, she wanted to be able to do so reasonably directly. She could use pedestrian ways instead of streets and it was possible to arrange very attractive walks which had no relation to the roads, thus introducing another element into the design of the neighbourhood unit. Moreover, she did not want to walk along wide, heavy, expensive roads such as some county engineers provided on housing estates. Miss Ledeboer believed that if we had to reduce expenditure on housing it would be in the roads that we should be able to do so. The double footway was not necessary in little cul-de-sacs because the roadway by itself was sufficient when there was so little traffic. Moreover, we should not ask people to walk more than a quarter of a mile down any road without coming to a point of interest and for this there was nothing more attractive than a bit of open space. This open space should be adjacent to the road and not tucked away behind houses. With trees planted on it, it introduced another ingredient into the design.

Miss Ledeboer concluded: Finally, the houses which are going to be placed in this area are houses for everybody, of every kind. That is what I mean by mixed development; some people think it merely means having flats and cottages. I propose to mention only one aspect of flat design, which I think has destroyed much of the amenity which we should like to see today. Modern flats are usually built today with staircase access, instead of with the long balcony access formerly used. If we are going to design flats in this modern way, should not we give up the idea of designing the surroundings of the flat as a single space? Why not give the flats their own gardens in front and at the back? Why should we have a huge communal asphalt place behind and communal gardens in front? These are single units, and treated in the way I suggest they tend to become more homely and attractive. I think it is because we have encouraged too much communal open space immediately round our housing that we get a lot of hooliganism. If we broke up and made quieter the areas immediately round our flats, there would not be so much trouble and destruction. We must provide playing places for the children, and for small children this can be provided immediately behind the flats, but other children will not be able to dodge into it, because it will be fenced off. From the point of view of maintenance I do not see any difficulty, and it will bring flat development more close to the ground and more in relation to cottage development. From the point of view of the housing manager it ought to be a sound solution; housing managers always want to rail everything off; they are averse from letting other people get into their estates, and they should welcome a suggestion which should make the flats themselves into three-, four- or five-storey houses.

The question of balanced development has not really received proper study. I suggest that where local authorities want to have mixed development their housing managers should consider renting houses on a quarterly lease or on a monthly basis. They might also consider leasing land to developers who would provide larger houses designed in close relationship to the general scheme.

It is only by the acceptance of all the ingredients, by giving them mature consideration and assembling them courageously on the site, realizing that some of the elements will grow, and others, possibly, decay, and by bringing the influence of personality to bear on the area, that you will build a successful community.

DISCUSSION

Mr. John Brian Cooper [*F*] said that the only point which he wished to take up was the King Charles's head of the Conference, the question of terrace houses. While for some time past architects had been well aware of the impossibility of making a gracious design of new housing estates with semi-detached houses, it had been difficult to convince members of housing committees and councils of the possibility of planning terrace houses as conveniently as semi-detached houses could be planned. He was sure that it could be done; it was only a question of architects demonstrating to their clients that it could be done. The greatest difficulty was not a practical one, but prejudice.

Mr. Livett suggested going to the dustman and the coalman and asking their opinions. He agreed; but one should not necessarily act on their opinions. Their opinions would show what the problem was, and some way would have to be found of providing what was required.

The prejudice against terrace houses was partly due to the fact that working-class people were the most conservative members of the community, and disliked anything that was not familiar to them. For many years most of the people for whom houses were being provided had looked up to the semi-detached house, and if they did not get one themselves they felt that they had been done out of something, whereas in fact they could be provided with something which was equally convenient and which could be designed in a gracious manner.

The President thanked Miss Ledeboer for her paper. As time did not permit of further discussion of it, he then called on Mr. Matthew for his paper.

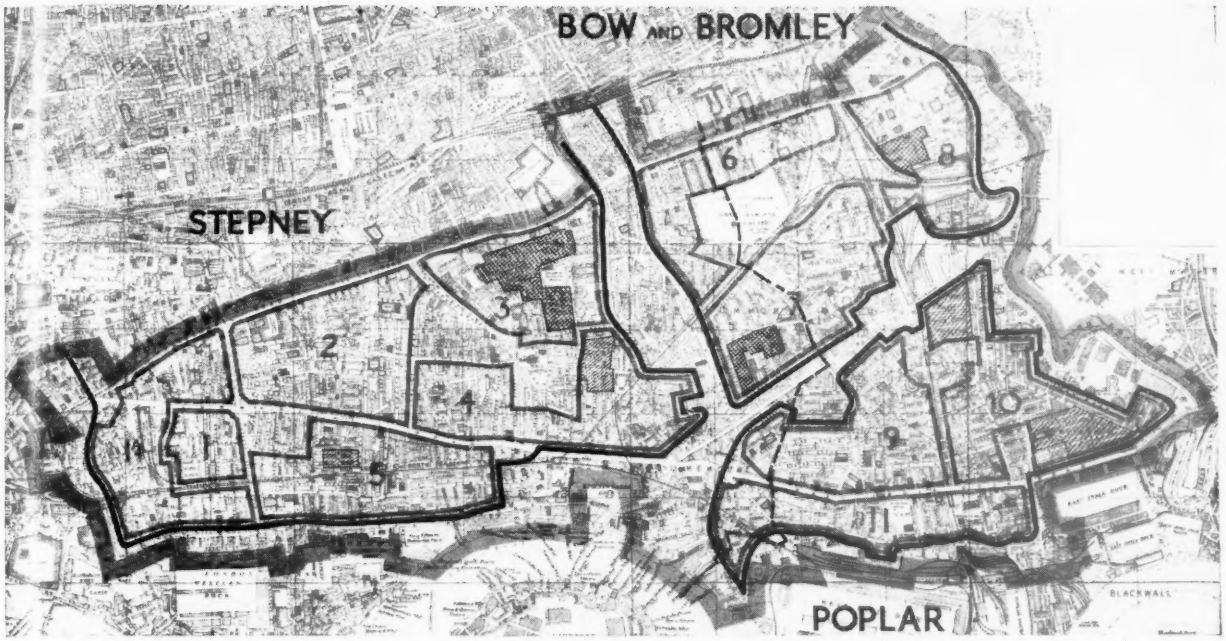


Fig. 1: The main communities and neighbourhood units in Stepney and Poplar

Neighbourhood Planning in Built-up Areas

By Robert H. Matthew [*A*], Architect to the London County Council

The President in the Chair

Mr. Matthew said he took it for granted that everyone knew what was meant by 'neighbourhood planning'. He proposed to talk more from the point of view of the planning officer than of the housing developer about the conditions found in the inner suburban areas of London and, in particular, on the East End boroughs of Stepney and Poplar. In spite of the apparent superficial similarity of one London district to another, there was a very real underlying community structure. The planner had first to disentangle this structure and to outline the natural community boundaries. This was the object of a planning survey.

There were three existing types of neighbourhood in the inner urban areas of London: (*a*) Those of fairly recent construction but which were deficient in community buildings and amenities; (*b*) Those generally obsolescent but where, owing to present conditions, large scale reconstruction could not be undertaken immediately; (*c*) Those where war damage gave opportunity for comprehensive development soon.

The phasing and execution of a plan would depend largely on the type of area and it was clear that category (*c*) areas gave the best chance, at present, of putting into practice the conception of the neighbourhood as a social unit.

In the category (*a*) areas, much redevelopment took place in the '20's and '30's, both by municipal enterprise in slum clearance and also by private enterprise notably in the erection of large blocks of flats. In these areas, concentration on house building to the exclusion of community building had created an altogether unnecessary social problem to which there was no simple answer.

Mr. Matthew continued: The physical problem in such areas is to link the various individual housing groups, many of them in themselves excellent, into the coherent pattern of a neighbourhood unit—a pattern almost invariably absent in the original conception of development. This is by no means easy to do today, even if the ground space necessary can be made available.

An example of such an area can be seen at Wapping. Here redevelopment between the wars by blocks of flats is almost complete. This neighbourhood, with a strong local tradition based on the Irish Catholic population settled round the docks, has maintained its identity largely owing to its physical isolation from the rest of Stepney and London, and also to the dependence of a large proportion of the workers on the docks. The elements which are now missing are modern schools, with their greatly enlarged sites, local open spaces, an adequate shopping centre, a community centre, a branch library and other community buildings.

The outline plan for the area which is now in preparation shows that in this case it will be possible to make a satisfactory scheme for the completion of the redevelopment of the area as an organic unit. As, however, most of the building just mentioned cannot be immediately undertaken, the practical problem will be to earmark sufficient land for the purpose required, and to see that in the meantime inappropriate development does not take place, or at most is permitted on a temporary basis only.

It is in this type of area that the determining factors of property, layout of streets and underground services will be felt most strongly, and it is unfortunately true of London, as of most cities, that mixed development of housing with commercial and other buildings was allowed to take place even under pre-war planning control. The unscrambling of the mixture will be a slow and unspectacular process, testing the virtues of patience but, because of this fact, all the more vigilance is necessary on the part of town planning committees in the control of day-to-day development applications.

The category (*b*) areas, Mr. Matthew said, were probably the most difficult of all to deal with in present circumstances. Large scale redevelopment was obviously necessary, but it was a plain fact that all buildings with a spark of useful life would have to be retained for some time, rendering comprehensive clearance out of the question. Redevelopment plans, based on a priority pro-

Fig. 2: Typical street in the reconstruction area

gramme, should be prepared at an early date so that each unit of rebuilding, however small, contributed to the ultimate comprehensive plan. This principle was easy to enunciate but very difficult to carry out consistently in practice, particularly in areas of sub-standard terrace housing. The most distressing aspect of such areas was the steady depreciation of housing by multiple occupation and overcrowding. There were also large areas of uneconomic but solid Victorian dwellings. The acute housing shortage resulted in a demand for conversion, often successfully carried out.

Mr. Matthew continued: It is, however, essential to estimate the effect of this form of redevelopment on population densities, and to prevent, by planning control, the overburdening of a district in relation to the public services and amenities available. Overall densities should therefore be controlled and kept under constant review—a laborious task necessitating a large staff of surveyors. An effort must also be made to relate the sizes of converted flats to actual family sizes, by preventing sub-division into excessively small units.

As with category (*a*) areas, large-scale improvement cannot be made within a short space of time. It is to be hoped that the time will not be too far distant when resources will be available to do this job in the way that it ought to be done; bolstering up out-of-date property is desperately uneconomic, and has obvious limits, but seems meantime to be inevitable. This is not to say, however, that some improvement can not be done on a more modest scale in the interim, pending redevelopment, by creating children's playgrounds on vacant land (an operation, incidentally, carried out successfully by Patrick Geddes in more than one city over 30 years ago), or by their conversion into small amenity open spaces, often of great local value, by planting and skilful landscaping; by enclosing streets surplus to traffic needs for use as safe playground areas; by the preservation of public buildings, church halls and other similar buildings for community purposes; and, on the negative side, by preventing the expansion of or eliminating non-conforming uses as far as practicable under our town-planning powers. We have to do the best we can with our resources, and concentration upon the reconstruction areas, more attractive to the imaginative planner, must not prevent the utmost amelioration possible, within the present severe limitations, in the areas I have just described.

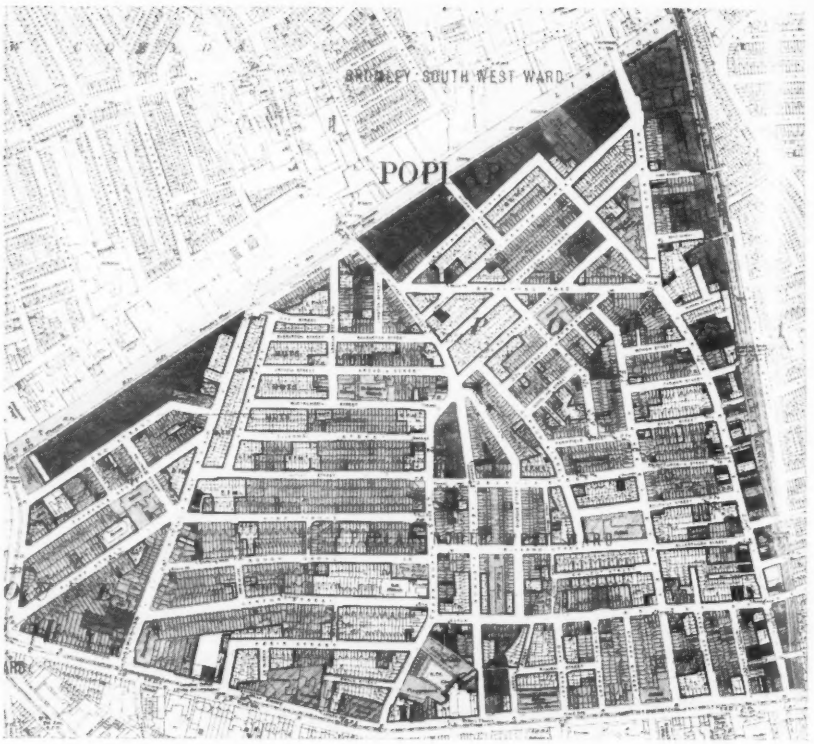


Fig. 3: Neighbourhood No. 9 (Poplar). Existing street pattern

It is, of course, category (*c*), the areas of extensive war damage, which provides the greatest opportunity for the planner. These areas at the same time, and very naturally, tempt the local housing authority to use every piece of cleared land exclusively for housing purposes, and thus to repeat all over again the mistakes made after the 1914-18 war.

The 1944 Act for the first time recognized the necessity for replanning, conceived not solely in terms of housing but more widely as civic reconstruction. It applied to both war-damaged and obsolescent areas, the former attracting the larger financial grants. It introduced the system of designating land as subject to compulsory purchase, and also the process of preparing a redevelopment plan—both subject to the approval of the Ministry of Town and Country Planning. The essence of the Act is that land is to be purchased by local authorities for the redevelopment of areas *as a whole*. Thereafter the land will be either redeveloped by the local authorities themselves, or leased for redevelopment in accordance with the plan, bringing back again the possibility of town planning by leasehold control, so successfully used by private landlords in the 18th century.

The 1947 Act has maintained the principle of designation. The development plan, required under the Act to be prepared within three years from the appointed day—1 July of this year—will show in outline the neighbourhood structure for the whole of the area, and will also include special areas of comprehensive development. Designated areas, subject to the limitation that they must be acquired within a period of 12 years from the approval of the plan, will form those parts of the areas of comprehensive development which can be expected to be redeveloped within this period.

This brings me to recent developments in planning neighbourhoods in the East End of London. The County of London Plan, prepared by Mr. Forshaw and Professor Abercrombie in 1943, laid down in outline the main community structure for London as a whole. The Stepney-Poplar area, the first reconstruction area to be submitted to the Ministry of Town and Country Planning under the 1944 Act, was selected by the authors of the County of London Plan for detailed examination, and a redevelopment plan for part of Stepney, designed within the general neighbourhood and zoning plan for the whole of the county, is illustrated in the published Report. This scheme has formed the basis for subsequent planning proposals, and its fundamental conception has been preserved through its evolution and development.

The reconstruction area as proposed by the County Council covered nearly 2,000 acres. The Minister, after holding an extensive public inquiry, ultimately excluded from the Declaratory Order about one-third of the total, leaving 1,300 acres subject to compulsory purchase. The exclusion of 700 acres from the Order does not mean, of course, that the overall plan for the whole area must be abandoned, or trimmed

Fig. 4: Neighbourhood No. 9 (Poplar) replanned

in any way to the reduced area. It simply means a reduction in the area liable to compulsory purchase by the planning authority. The remaining 700 acres will still be subject to normal planning control, like the rest of the county, and in fact the Minister himself has emphasized the necessity to continue to plan for the whole area.

Indeed, the planning of the reconstruction area, and the determination of the number and disposition of neighbourhood units within it, cannot be isolated from the larger picture of the county and the region. Major regional planning decisions, for instance on main roads and on the extent of decentralization of industry and of population, are fundamental to the working out of the more detailed scheme: similarly, the relation of the area to the county as a whole, to the City and to surrounding boroughs, are all material factors affecting the size and shape of the communities. In London the progress of the development of the New Towns will closely affect the reconstruction programme.

The boundaries of the area were determined by two main factors: the extent of war damage, and natural barriers. These natural barriers—the solid mass of the City on the west; to the north, the Whitechapel Road and its extension the Mile End and Bow Roads, forming one of the main subarterial roads leading out of London; the River Lea, coinciding with the county boundary on the east; and the docks on the south—enclose three main communities, Stepney, Poplar, and Bow and Bromley, these three communities being parts of the Metropolitan Boroughs of Stepney and Poplar.

In this area, category (*a*), war damage (buildings totally destroyed or damaged beyond repair), totalled 16.6 per cent of the whole area, and category (*b*) (seriously damaged but capable of repair) 7.1 per cent, the total area of both categories amounting to over 450 acres, or nearly a quarter of the whole area. In 1939 the three communities were estimated to contain about 217,000 persons. It is now proposed to reduce this figure by 58 per cent. That such a large reduction should be necessary is evidence of the conditions under which the people of Stepney and Poplar have been living; this may be further appreciated by the fact that the net calculated residential density for this reduced population will be as high as 136 persons per acre. The ultimate population proposed is 92,000, which by coincidence is roughly the present population, although this is now tending to increase. The East End, once one of London's most important suburbs—the Lord Mayor of London once lived in Stepney Green—was fully developed in 1870. The development of the docks and rapid industrialization by a few large factories and a multitude of small-scale workshops was accompanied by a spectacular rise in population. In 200 years the character changed from a rural health resort for the aristocracy to a plague-ridden, congested, and poverty-stricken working-class slum. The general appearance of the East End, with its streets of two- and three-storey houses, in sharp contrast, for instance, to the dark satanic tenements of Glasgow dockland, was, and is still, a great deception.

The older parts of the area, such as Shadwell and Limehouse, suffered the greatest mixture of land use, with houses, tenements and shops interspersed, wherever space could be found, with factories and workshops. Later development, as at Bromley-by-Bow, is relatively free from mixed user, while the area adjoining the City is almost wholly commercial, with an area near Gardiner's Corner mainly devoted to the clothing trade, housed both in old domestic property and more recently built flatted factories. Heavy industry has concentrated along the banks of the River Lea, along the Limehouse Cut, and around the docks. The large area of railway sidings and the tangle of converging railway lines at Bromley are major physical barriers making coherent neighbourhood planning very difficult.

The two canals traversing the area—the Regent's Canal and the Limehouse Cut—and the two East-West main roads are all dominant features closely affecting the community and neighbourhood structure.

The various stages of reconstruction may be classified in the following terms:- (1) the redevelopment of war-damaged and cleared areas; (2) the clearance and redevelopment of insanitary houses and congested areas with bad layout; (3) the clearance of blighted and obsolescent areas; (4) the completion of the open spaces by the clearance of houses and other buildings not dealt with in the first three stages; (5) the construction of major roads and other engineering works which will be, of course, a continuous process; and (6) the decentralization of industry, and the elimination of non-conforming users, which will also be a continuing process, determined to a large extent by the first three operations.

The planning objectives, from the point of view of the phasing of the reconstruction, will be to secure that the individual elements of the reconstruction are carried out according to the overall plan, and to ensure that a proper balance of development is preserved as reconstruction proceeds, for example between population and social amenity requirements.

I have mentioned the three main communities of Stepney, Poplar, and Bow and Bromley (Fig. 1). Within these, the residential neighbourhood structure falls into 11 neighbourhoods—five in Stepney, three in Poplar, and three in Bow and Bromley, with populations ranging roughly from 5,500 to 11,000. These neighbourhoods do not correspond exactly with the old-established parish boundaries. While the aim has been as far as possible to respect these ancient boundaries, the new neighbourhood structure must be related to the main road system and other dominant features of the plan.

We are faced with the fact today, as emphasized by previous speakers, that, with modern traffic conditions, road intersec-

tions are unsuitable and often dangerous for the congregation of people, and some reorientation of the focus of local life, so frequently centred in the past on key traffic points, becomes inevitable. You will find, therefore, that, wherever it has been possible, schools, community buildings, shops and open spaces, all attracting numbers of people, have been turned in to the centres of the neighbourhoods, rather than located, as hitherto, along the edges.

Outside the residential neighbourhoods are the principal commercial areas, mainly concentrated in the western part of Stepney near the City; the industrial areas, along the Limehouse Cut, round the docks and along the River Lea; the large open spaces, such as the proposed open belt separating Stepney from Bow and Bromley, which it is intended will ultimately be extended northwards to link with the existing Victoria Park; public utilities such as the gas works, and of course the main roads and the railways. Also outside the residential neighbourhoods are the sites for new comprehensive high schools and special schools, and the civic and administrative centres.

We have now come to the point when the main communities are defined, broad zoning is settled, the lines of the major traffic roads laid down, and the shape and size of the residential areas determined. The next stage, on the basis of the reconstruction programme, is the detailed planning of the residential neighbourhoods.

Miss Ledeboer has already dealt in great detail with the elements of the neighbourhood—housing, open spaces, schools, community centres, churches, public buildings, shops, and roads and communications. These do not differ in any important respect in urban areas. There is the same necessity to divert through traffic from the residential zones, and to provide all the facilities for living within easy reach of the homes of the people. The planning principles are the same, but their application may vary very widely with the circumstances.

The essential differences, as compared with undeveloped areas, are, of course, the limitations imposed by the restriction of ground space available, and by the nature and extent of existing development. The first of these limitations—the space available—vitally affects the standards to be aimed at, particularly in relation to densities and open spaces. It is, for instance, impossible to provide the full standard of playing-space adjacent to the school buildings in the inner urban areas, and school sites will be generally more restricted than in suburban areas. The new public open spaces must therefore provide playing fields for the school children as well as for adults. The total area occupied by schools in the whole reconstruction area in 1939 was 58 acres, or 3 per cent of the area. The provisions of the new Education Act require an allowance of 150 acres, or 9 per cent of the area—*three times the pre-war figure, for less than half the pre-war population.*

Incidentally, a point will be reached in the redevelopment of the area when new housing estates will exist side by side with old occupied property, which will not at that time have been demolished to make way for further housing, or for new open space, and the proposed ultimate population will, for a limited time, be exceeded. For this reason it will be necessary to make provision for more school places during this period than will ultimately be required, and to use some existing schools, eventually to be removed, to take this additional load. I should perhaps mention that the town planning proposals and the London Schools Plan, prepared to meet the requirements of the new Education Act, have been worked out together, and provision will be made in the reconstruction area for 23,000 school places, or roughly 25 per cent of the ultimate population.

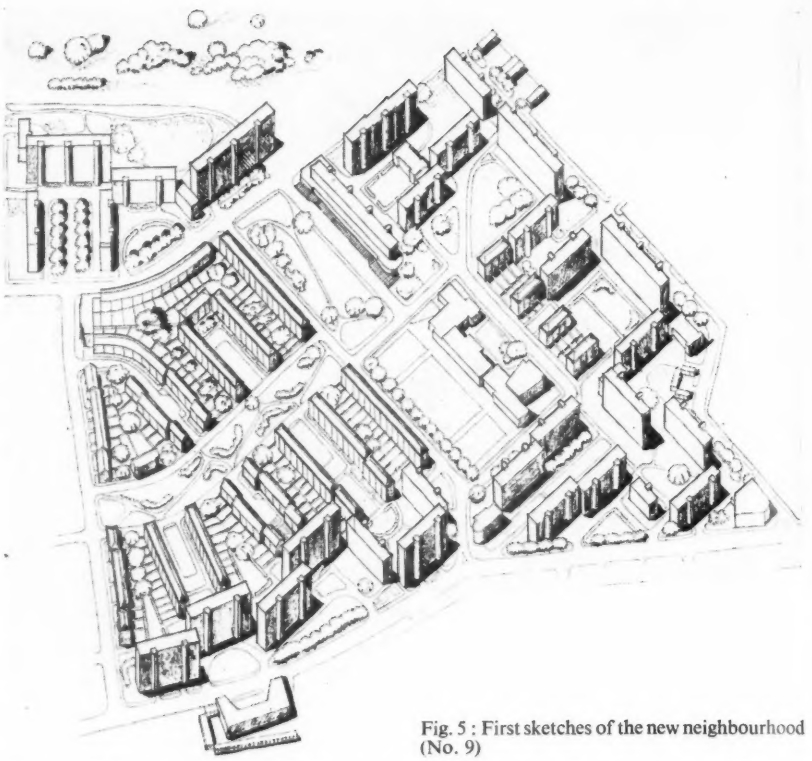


Fig. 5 : First sketches of the new neighbourhood (No. 9)

With regard to open spaces provision the limitations imposed are obvious. In the reconstruction area existing open spaces (largely consisting of disused burial grounds) amount to 37 acres—a standard of 0.4 acres for 1,000 of the proposed reduced population. The standard of open space recommended in the County of London Plan is 4 acres per 1,000 on the understanding that an extra 3 acres per 1,000 will be provided outside the county area. In the reconstruction area a total of 323 acres will be provided in place of the existing 37. This will mean a standard of 3½ acres per 1,000, the difference between this and the 4 acres already mentioned being provided in large parks, such as Victoria Park, immediately outside the area.

It is in relation to housing densities that the greatest difference between new and developed areas will be noticed. In this intermediate area the net residential density of 136 persons per acre, recommended in the County of London Plan, has been accepted. This is an average density and it does not follow that every acre will house 136 persons. The densities, for instance, of existing and approved municipal housing schemes will materially affect the densities of future development. Nearly a quarter of the whole residential area is already occupied by such schemes, with an average density of 165 persons per acre. It follows that, if the average of 136 is to be achieved, new schemes should not exceed 127 persons per acre. Much, of course, depends on the actual distribution of these existing schemes —for instance, in one or two neighbourhoods existing densities are such that future development will have to be at densities as low as 40 persons per acre.

For the purposes of preliminary population calculations, the standard of measurement has been taken on the basis of persons per acre. When we come to layout, the question becomes one of relating population to accommodation. Hitherto, the standard has generally been on an allowance of so many dwellings to the acre, a method which has the disadvantage of leaving out of account the sizes of dwellings. A more exact basis under examination at the present moment is that of persons per habitable room, giving a direct relationship between population and rooms required.

What is the effect of these densities and population calculations on the type of layout? The County of London Plan advocated

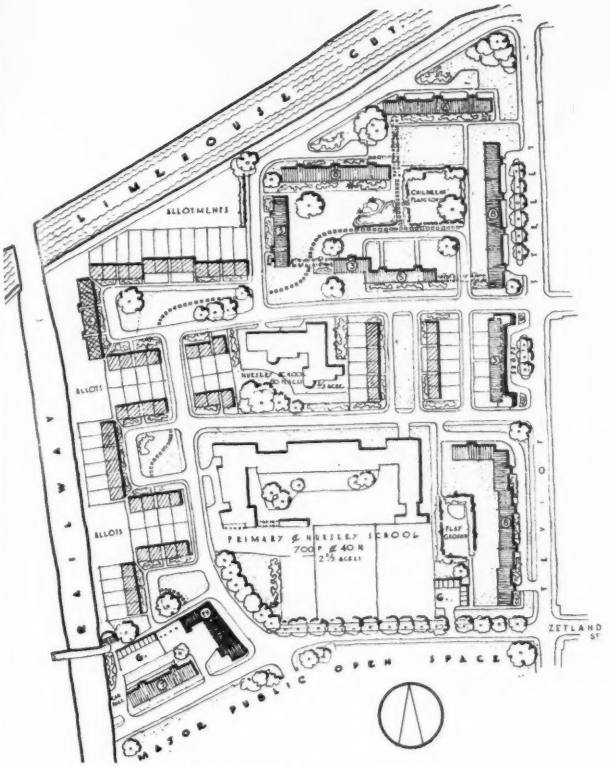


Fig. 6: Neighbourhood No. 10 replanned

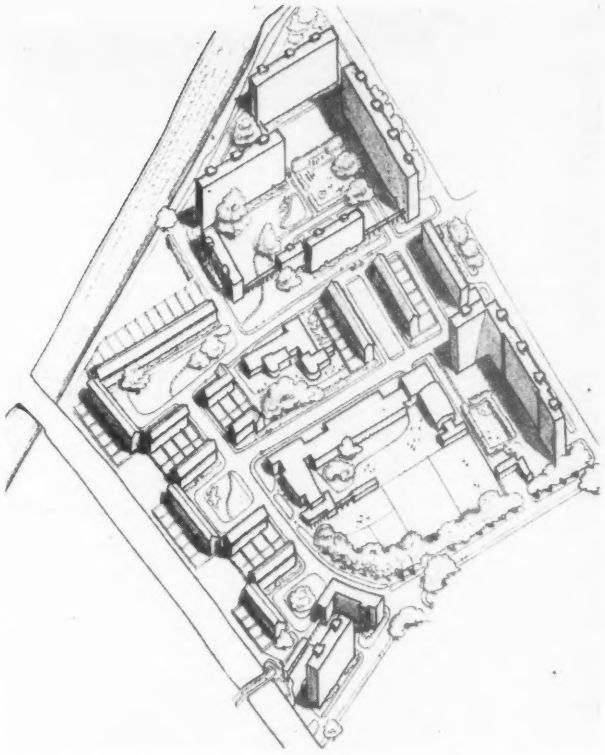


Fig. 7: Preliminary study for neighbourhood No. 10

the accommodation of one-third of the people in houses and two-thirds in flats, in the 136 density zone. The original development of Stepney and Poplar was largely in the form of terrace houses (Figs. 2 and 3) and, although great overcrowding now exists, most people still live in houses. Redevelopment on the other hand has been almost entirely by means of flats—usually five storeys high. The problem now facing us is whether the recommendation of one-third houses to two-thirds flats can in future be attained. To achieve this, and to preserve the 136 average density, future development must be on an overall basis of half the population in flats and half in houses. Furthermore, the achievement of the overall figure of one-third houses to two-thirds flats means a land allocation of almost 50 per cent to flats and 50 per cent to houses, with high blocks of flats and houses at a density of 20, or perhaps more, to the acre—densities which can be obtained only by the very careful design of terrace housing, on a house plot of modest dimensions (Figs. 4 and 5). Terrace housing has been the subject of a great deal of discussion at this Conference, and Mr. Forshaw has mentioned the research recently carried out under his guidance into the possibilities of this type of housing. I hope that we shall have a considerable development of the terrace plan to meet just the type of area I have been considering. With good site planning I see no reason why terrace housing should not be developed in an entirely satisfactory way (Figs. 6 and 7). The issue is a very real one in the East End of London; the choice is between a limited number of houses with small gardens, or a total development of flats—an alternative which no one, I think, can contemplate with much satisfaction.

So far I have mentioned standards in connection with school sites, open spaces and housing. With regard to the many other important aspects of the neighbourhood—local shopping, community buildings, churches, health clinics, public houses, for instance—standards are difficult to arrive at, and are likely to vary very widely. It is here that local knowledge is essential, and close consultation with all interested becomes a necessary part of the planning process. In some cases, as with the location of health centres, the London County Council is itself the responsible authority; in others, voluntary associations and private interests will have the ultimate responsibility. Many consultations have taken place, for instance, with the various Church organizations; meetings have been convened, with the co-operation of the local authorities, with those interested in the provision and management of community centres; close contact has been made with the local licensing planning committee, whose proposals must be approved by the Minister of Town and Country Planning; and an extensive survey has been made of existing shopping facilities, including street markets, of which there is a very large one in Chrisp Street, in Poplar.

For the success of community planning, these and a score of other activities must be taken from the theoretical sphere into the practical realities of Limehouse and the East India Dock Road.

The emergence of the community, out of the present urban disorder, as a reasonable and pleasant place for men and women and their families to live will to a very large degree depend upon the extent to which this great variety of local interest can be appreciated and used, and its planning must therefore be a two-way process. On the one hand, the planner has his notions and ideas of density and zoning; and, while 136 to the acre may not mean very much in the abstract to the docker in Wapping, its effects will be very real in terms of his future house and surroundings. The meaning of these standards must be put across to the local people and understood by them as the various stages of the development of the plan are worked out. On the other hand the significance of that cosy, if untidy, backwater, with the noise of traffic just within earshot, between the pub at the corner and the fish-and-chip shop, in the daily round of Bill Shadwell and his friends will be overlooked at the peril of losing the soul of community life. The atmosphere of the city—the accumulation of generations of living—may indeed be thick, but it is often congenial, and always a living reality.

The behaviour of people living and working together in community, and their real needs, though often simple and unpretentious, are often comparatively little understood, as applied to 20th century metro-

politan life, and yet, surely, this is all-important for the future. Planning is, above all, a human problem, and the planning team must be capable of understanding the city, not only in terms of bricks and mortar, but also in terms of the individual, the family and the group, in their relations to their physical environment.

I was much interested in Mr. Silkin's emphasis on the question of balance and the mixture of social groups. This is a social problem of great complexity, and I do not see a ready solution, at any rate in the kind of area which I have been discussing. The place of the sociologist is still not completely recognized by many planning authorities, for the essential interpretation of just this kind of problem and of the feelings and wishes of the local people. These must ultimately find expression in building and, as Mr. Gibberd has so delightfully illustrated, to the architect must fall the heavy responsibility not only of providing a workable and functional plan in all its aspects, but also, of creating, by his sensitive handling of the many problems of design, grouping of buildings, layout and landscaping, that sense of comfortable local atmosphere, that genius loci, which people living there will be glad to identify as their own.

DISCUSSION

Mr. C. H. Walker, O.B.E., M.C. [*L*] (Director of Housing and Valuer, London County Council) said that the clamant need for housing following the first world war, in the years between the wars and following the recent war had entailed the sacrifice of many things which one held dear. It was unfair to blame the local authority for one line of development which had taken place; the blame could more properly be laid at the door of those who passed the legislation. It must not be forgotten, moreover, that there were such things as elections, and that members of the local council, pressed by their constituents to provide homes, were at times responsible for forcing officers to produce schemes without that consideration and mature wisdom which came from proper study, because of the need to get houses as quickly as possible. The Tudor Walters Report had perhaps been regarded too much as a bible and not sufficiently as a guide, and that had led to the terrible deserts of 12 and less to the acre which were to be seen up and down the country.

No one would wish to disagree with what Miss Ledeboer and Mr. Matthew had said about the neighbourhood unit. It was essential that in everything that was done an effort should be made to provide for the people who were being housed (some of whom would be housed a long way from their present surroundings) a full life, so that they could settle down to the enjoyment of their new surroundings. It was not an easy problem; people were inclined to distrust each other, and the housing manager had to be patient and persevering.

With regard to the successful grouping of shops, it was surprising how people liked to be jostled in a shopping area. The shopping area was somewhat in the form of a community centre; the women met there and told each other their troubles, and that led to contacts being made which possibly would not otherwise occur. The community centre, the pub, the church and the shop were the places where contacts were made.

Mr. Matthew referred to the leasehold system. Personally, as a valuer, he was not going to enter into any argument as to the merits or demerits of the leasehold system. From the point of view of the enlightened developer there might not be any difference of opinion, but from the point of view of what happened when the buildings were getting towards the end of their life it was an entirely different story. Some of the worst properties let out in parts which he had met were those which were towards the end of their leasehold life.

At the present time housing was largely dependent on finance, and already there was some alarm with regard to costs. It would be a tragedy if any of the present standards were lowered.

Mr. Edward Armstrong [*F*], said that Mr. Matthew's paper had given some idea of the magnitude of the task which faced the officers of the London County Council. The Metropolitan boroughs, which had to work within the general framework of the County of London Plan, also had a big job. There might sometimes be a tendency for the Metropolitan boroughs, in considering their housing problems, to regard them as unrelated problems of their own, but it was necessary to keep in mind that however large or small an area they were dealing with, or were handing over to their architect, sight must never be lost of the final pattern for the whole city, which was the overriding consideration.

One of the difficulties which faced the Metropolitan authorities in dealing with their areas was the fact that so many unknowns still existed under that overall plan. One of the most fruitful causes of difficulty was the elusive ring road and where it was going to be. It might be known that it had been decided that it would cross the corner of a housing site; what was to be done about it? The general form of the master plan must remain fluid, because the problem of land acquisition was such that the final sections of the scheme might not be under construction for 10 or 20 years. How was it possible to devise an overall form and yet keep it fluid enough to allow the normal developments of thought on housing and amenity to take place within that period and yet be incorporated in the final scheme in such a way that when the scheme was complete it would have some understandable form and some human cohesion?

The President: Before you go, it is my duty, on your behalf, to thank all those who have been instrumental in assembling this exhibition and arranging this Conference. For this the Housing Committee of the Royal Institute has been responsible and to them we owe a great debt of gratitude.

I had hoped that there would have been time for me to give a careful summing up of the proceedings of the last two days, but (in the ten minutes I propose to detain you) I can only give you some of the impressions made upon me whilst sitting here silently and at times anxiously.

This morning a speaker expressed the opinion that theory was out-running practice. That was the impression made upon me at first, but Mr. Livett quickly brought us back to the practical things of life when he discussed the Garchey System. I feel there can be little criticism of the later papers of the Conference. They dealt with the practical details of housing and planning and were full of interest.

I am a local authority man. There are many others here. We have been the subject of a good deal of criticism and been held responsible for all the mistakes made in the inter-war period by the local authorities. It would have been more generous if some of the speakers had referred to the mistakes 'we' made, for the responsibility was a joint one. It is only recently that the Ministry of Health have stressed strongly the need for the employment of architects on housing schemes. That advice could have been given, and the employment of architects insisted upon, twenty years ago.

We heard a good deal about the evils of segregation. It is easy to talk about the mixing of the population, but it is difficult to accomplish. It was done successfully at Port Sunlight—an old but very interesting experiment in housing. It is strange how those who accuse others of snobbishness are so often snobs themselves. We have blamed the speculative builder for ruining the countryside. All the blame should not go to him for he has only catered for the 'snob' who wanted to buy a house as little like a 'council-house' as possible. I fear segregation will go on for a long time. We are insular people and we like to keep ourselves to ourselves. We come together in times of national emergency and crisis. Beneath all our snobbishness there is much kindliness, kindliness in times of sickness and distress. This mixing of the people is one of the most difficult of the many problems those interested in housing have to solve.

This afternoon we have spoken of the need for community centres and their place in neighbourhood units. I am always disturbed when people talk about using a 'Nissen' hut for a community centre. If a community centre is to be successful those who make use of it must be proud of it. I should find it a little difficult to be very proud of a 'Nissen' hut used for that purpose. The community centre should be one of the most attractive buildings of the neighbourhood unit, and it should be one of the first of the amenity buildings to be erected.

We have heard a good deal about the imperfect development of the countryside. What is stopping proper development? Panic, and panic will impede everything. The state of panic which demands that nothing else shall be built until the worst housing cases have been first dealt with. You will never get rid of segregation that way. You will create it. You must so carry out your developments that all needs are provided for in their proper proportion.

From the exhibition. Rural scheme at Padbury for the Buckingham R.D.C. Scherrer and Hicks [*FF*]

You must build schools and shops, places for local industries, churches and the community centre. And when you have built the community centre I beg you not to hand it over to the Education Authority. Let the people run it themselves and make the centre what they want it to be. That is the democratic way. They don't want their lives planned for them. They are afraid of dictatorship. There is a great danger that the theorists are planning too much for us and the way we are to live.

As I have sat through the papers I have remembered that in the valley between theory and practice there is the narrow bridge of practicability and finance. That bridge has to be crossed. I am not criticizing the idealist. I have been called one myself, but we must get down to hard facts.

For instance, we heard much about the planting of flowers and flowering shrubs and trees, fruit trees and the laying of grass verges. All are very desirable, but all cost money. They are expensive in maintenance especially when they are ruthlessly destroyed or mutilated by those for whom they are provided. There are many things we should like but which we shall be compelled to do without for a time.

Yesterday Mr. Beaufoy showed us photographs of the village of Eltham. We were all charmed with them. There was variety and an element of surprise in the imposing gables and many dormer windows. None of them conformed to standard windows so strongly recommended a few years ago by the Ministry of Health. I could not help wondering what would be said to the official of some small local authority who produced a scheme on the lines of Eltham before the Regional Housing Officer and tried to defend the cost.

The need for the two-bedroom house was stressed. I hope we shall not over-build this type of house which often deprives the family of a very necessary room in times of sickness, a resting place for friend or relative or a quiet place for the studious child.

This morning Mr. Gibberd showed us how to get beauty with simplicity. It was an excellent paper and I hope that it will be published in its entirety, with many of its illustrations.

My ten minutes are up. In them I have tried to give you some of my impressions as I have listened to the papers and the discussion on them. I hope you have found much to interest you and that we shall all go away from this conference exhilarated with what we have heard and seen and determined to do our best in work full of interest to the architect and vital to the whole nation.

Review of Construction and Materials

This section gives technical and general information. The following bodies deal with specialized branches of research and will willingly answer inquiries.
The Director, The Building Research Station, Garston, near Watford, Herts. Telephone: Garston 2246.
The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks. Telephone; Princes Risborough 101.
The Director, The British Standards Institution, 28 Victoria Street, Westminster, S.W.1. Telephone; Abbey 3333.
The Technical Manager, The Building Centre, 9 Conduit Street, W.1. Telephone; Mayfair 8641-46

Timber Preservation. In Nature's continual warfare the architect has often to become a co-belligerent to prevent his particular domain being ravaged and over-run, and this is especially true in the case of timber which, though provided by Nature with a lavish hand, is subject to attack by minute but powerful enemies who do not announce that they have marched to the attack. The damage that can be caused by the misnamed dry rot will at once rise to the mind. Although much is known regarding prevention and cure of timber pests, the work of research still goes on, and nowhere more thoroughly than in the Forest Products Research Laboratory, who have recently issued their leaflet No. 43 on D.D.T. spray treatment for prevention of attack by the lyctus, or powder-post beetle, which seems to be particularly fond of the starch in the sapwood of oak, ash and elm. The F.P.R.L's treatment is concerned with these timbers during seasoning and storage, and consists of an emulsion in water containing at least 2 per cent of D.D.T. This should be sprayed on the sawn boards so as completely to cover all sapwood. The leaflet points out that the spray is recommended only as a preventative for protecting timber from infestation, and is not advised for use on timber known to be already attacked. The duration of effectiveness of a single application is not yet known, but if applied in May it should be sufficient to protect the timber during the following summer.

Architects will be more concerned with the preservation of timber when incorporated in a building, and in this connection Messrs. Lewis Berger and Sons have been carrying out protracted research, as they are of the opinion that the antiseptic properties of an application relying on the use of D.D.T. are likely to have only a limited effective life. Messrs. Berger have produced an antiseptic and germicidal paint which they have named Germide, and claim that their antiseptic medium enhances the germicidal characteristics of the dry paint film in comparison with other formulations. Germide is an enamel finish which is lethal to germ life over a long period, as has been proved by bacteriological tests, and is therefore recommended for use in hospitals, schools and nurseries. The paint is intended for interior use by brush application, or by a spray if mixed with a special thinner, and appropriate undercoats must be used according to the material on which it is to be used, for it can be applied to metal, concrete and plaster as well as to wood. It is touch dry in two hours and hard in eight. A colour card is available, showing a range of tints from pale cream to golden brown and dark Lincoln green. Further information may be had from Messrs. Berger, 12 Dartmouth Street, London, S.W.1.

Building Science Abstracts. These monthly pamphlets, compiled by the Building Research Station, each contain some 30 or more pages of highly condensed reviews of publications, and an architect may be forgiven for quailing before the prospect of trying to keep abreast of the information coming through just this one channel. Some of the abstracts may be passed over as being too highly technical for architectural needs, but the permeability of brick-mortar assemblages (B.S.A. No. 1534, Vol. XX) is a subject that will probably recall one or two unpleasant experiences. This Abstract describes water-permeability tests made at 35 days and again after 1 and 2½ year exposure on brick-mortar panels, constructed with 10 different types of bricks and 3 standard mortars. In the case of the 2½ year test dyes of different colours were mixed with the water to help in determining the extent of the bond between the bricks and the mortar and in estimating the character of the through channels. It was found that permeability varied much more with different bricks than with different mortars, and that the initial rate of absorption of the bricks had a marked effect, while prewetting of bricks with medium or high absorption rates gave improved results compared with the same bricks laid dry. An interesting conclusion reached from the tests is that the most probable location of a single through channel is at the interface between the mortar and the cut surface of a half-brick.

In this connection Abstract No. 291 (Vol. XXI) is of interest, as it describes the properties of masonry mortars of several compositions, their strength of bond and resistance to cracking arising from drying shrinkage. Tests on Portland cement-lime mortars of the same mix showed that shrinkage increased roughly with the amount of mixing water, and that with a 1 : 0.2 : 3 mix there was minimum shrinkage. In general, the resistance to cracking increased as the shrinkage decreased and also with the strength, for mortars of the same composition. The 1 : 0.2 : 3 Portland cement-lime mortars showed collectively the highest resistance to cracking, although some individual mortars of the other groups gave comparable results.

Aids to Opening. Many years ago an inventive engineer devised a system of near-control for opening doors; it consisted of mat-panels on each side of the door, and when these were depressed by the weight of a person they put into operation mechanism which swung the door open, the door being in two leaves. A more up-to-date method has now been perfected in which a pair of photo-electric cells do the work of the mat-panel. The cells are set up at a convenient distance from collapsible shutters and gates guarding an opening, so that when a vehicle passes between them mechanism is set in motion and the gates open, a pre-set time switch closing them again when the vehicle has passed through. Safety devices allow the gates to be opened by hand if the electric current is cut off, and should there be an obstruction in the gateway the closing drive automatically slips. The device has been developed by Messrs. Bolton Gate Co. Ltd., of Waterloo Street, Bolton, Lancs.

Slating and Tiling. Messrs. Langley London Ltd. have produced a booklet describing and illustrating points to be borne in mind in connection with slating and tiling. One not always remembered is that the effective slope of a roof is not the same as that of the rafters; with a rafter slope of 47½ degrees the effective slope of plain tiling is 39 degrees, of single-lap tiling 43 degrees, and of slating 47 degrees. A drawing illustrates the angle of creep, which is the roofing industry's name for capillary action; this occurs through the space between adjoining slates and may reach the nail holes of the course below unless they are placed in the safety zone. The booklet may be obtained from Messrs. Langley at 161 Borough High Street, S.E.1.

Codes of Practice. The following Codes have recently been published:
CP.323 (1948). General series. Private electric generating plant.
CP.324.101 (1948). The provision of electric lighting in dwellings.
CP.324.403 (1948). General series. Installation of vapour compression type domestic electric refrigerators.
CP.3.—Chapter III. (1948). Code of functional requirements of buildings. Sound insulation (houses, flats and schools).

The above can be obtained, price 2*s.* each.

British Standards. The following Standards have recently been published.
B.S. 1381. Gas lighting units and fittings for single-family dwellings. Price 2*s.* 6*d.*
B.S. 1400. 1948. Schedule of copper alloy ingots and castings. Price 7*s.* 6*d.*
B.S. 1422. Metal window sub-frames, sills and window boards. Price 3*s.*

Fig. 1: St. Bénézet's Bridge over the Rhone at Avignon (12th Century). Photo, Donald McLeish

The Bridge Brothers, Ancient and Modern

By G. H. Jack, M.Inst.C.E., F.S.A. [*F*]

Consultant to the Council for the Preservation of Rural England

THE OBJECT of this article is to place on record the results of a practical experiment concerned with the improvement of bridge design and restoration in the county of Hereford, during the years 1926-1933.

The county contains many historic bridges of great charm dating from the 14th, 15th and 16th centuries. Some of them had in former years been disfigured in the process of widening and repair by methods which were strictly utilitarian and —cheap.

In addition to the bridges of early date there were many of the late 18th and early 19th centuries which, though falling short from the æsthetic point of view, possessed distinguishing features of good design and sound construction.

The experiment was launched in the hope that by the employment of craftsmen by the council instead of casual labour through competitive contracts, some at least of the beauty of the early work might be recaptured. I trust that what follows will prove that the effort was well worth while.

It is a pleasure to acknowledge the assistance I received from my technical assistant, Mr. George Roberts, of Hereford, who was closely associated with me in all the Herefordshire bridge work and who took the photograph of Aymestrey Bridge (Fig. 3). My thanks are also due to the Borough Engineer of Aberdeen (Mr. C. F. Henderson) for the picture of Balgownie Bridge (Fig. 2), to Mr. Donald McLeish for permission to use the photograph of St. Bénezéts Bridge (Fig. 1), and to Professor Abercrombie for the foreword.

Foreword by Professor Sir Patrick Abercrombie, M.A., M.T.P.I. [*F*].

The art of bridge building has been recognized in pagan and Christian times as symbolic of the highest functions of mankind in which service and beauty are combined.

Mr. Jack has a contribution to make to this subject. He draws attention to bridges as living functionary bodies growing old and requiring attention like old people do, no longer able perhaps to carry the heaviest burden, but still useful and beautiful in their hale antiquity, and his is a most timely and practical contribution; it is

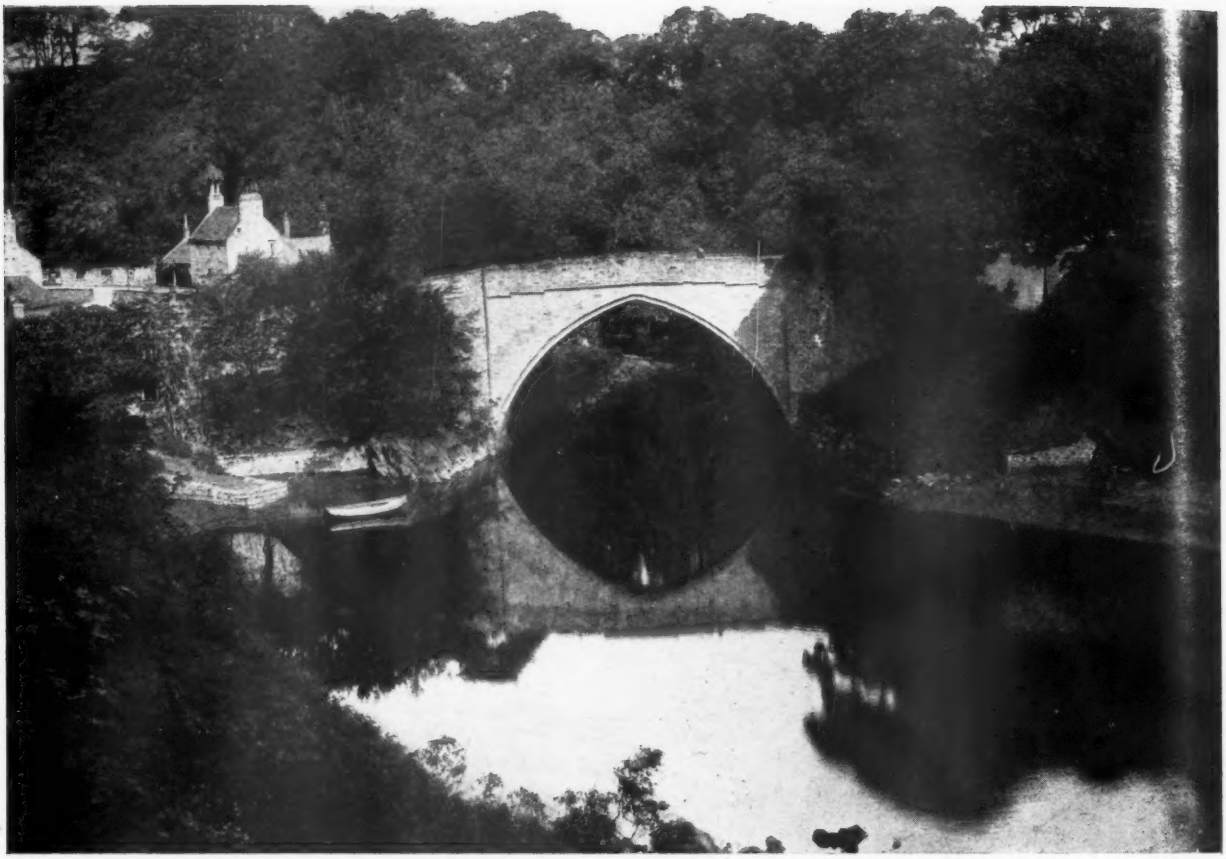


Fig. 2: The Bridge of Balgownie over the River Don. Photo, C. F. Henderson, M.Inst.C.E., City Engineer, Aberdeen

related both to the detailed repair of these old bridges and to the wider question of main road traffic over them.

As County Surveyor of Herefordshire, and as a Fellow of the Royal Institute of British Architects, Mr. Jack was able to deal with both these aspects himself. For the bridges themselves he revived the old Guild method of craftsmanship, and it was a real re-birth of the spirit which animated the original mediæval builders of these works of art.

It is no fanciful derivation from the French Order of Fratres Pontifices that Mr. Jack describes: his Hereford Bridge Brothers were banded together to maintain and renovate the crossings over the Wye and the Lugg as their forerunners had done for the Rhone and the Durance. Mr. Jack proved that this spirit of service and this zest in craftsmanship exists today if we only set about the right way to elicit it.

The other aspect of the preservation of ancient bridges can only be hinted at. But when he was County Surveyor Mr. Jack always maintained that there was a limit to the amount of traffic which the old roads and bridges could take even when widened and strengthened. There comes a point at which the scale of the old route reaches its limit; just as you can't properly blow up a Georgian manor house into a ten-storey block of flats. New routes, a new approach becomes necessary to cope with the new traffic which we were making shift to handle on the old lines.

It is up to the modern road designer and bridge builder, engineer, landscapist and architect to show that they can produce something as good as the work of the Roman, Mediæval and Renaissance constructor.

In the meantime we hail Mr. Jack as Pontifex Maximus of Herefordshire, that county of glorious country and rivers and of fine distinctive architecture.

The Bridge Brothers

The road and the bridge have always been prime essentials to man's progress. His history from prehistoric times until now is bound up with the idea of transport and communications.

All down the ages trade and culture depended on roads, and in times of stress the issue of a campaign was decided by easy movement. Much blood has been spilt for the possession of a bridge.

Our knowledge of the beginnings of bridge construction is scant.

There are a few examples of prehistoric bridges in England. The Post Bridge on Dartmoor in Devon and Tarr Steps near Dulverton, Somerset, for instance. Of Roman bridges not one remains. Foundations have been discovered on the banks of the Tyne and Severn, and that is all.

The great work of road and bridge construction accomplished by Roman engineers is well known, and examples of their bridge work are still standing in France, Spain and Italy. It is probable that many rivers and streams in England were spanned by timber structures.

After the departure of the Romans, early in the 5th century, the roads and bridges in England fell into decay, and there was little or no revival until after the middle of the 11th century.

Towards the end of the 12th century (1178) a poor shepherd by name Benoit appeared before the Bishop at Avignon and declared that he had a commission from Heaven to build a bridge across the Rhone. Possibly the Bishop thought the man was mad, so in order to get rid of him, suggested that he should cast a great stone into the river for a start. The legend goes on to record that much to the amazement of the onlookers, Benoit performed the miracle which initiated the construction of the famous bridge which today is known as St. Bénézet's bridge (Fig. 1).

The preparation for and the building of the bridge was a great work. There were 21 arches of unequal spans, the greatest

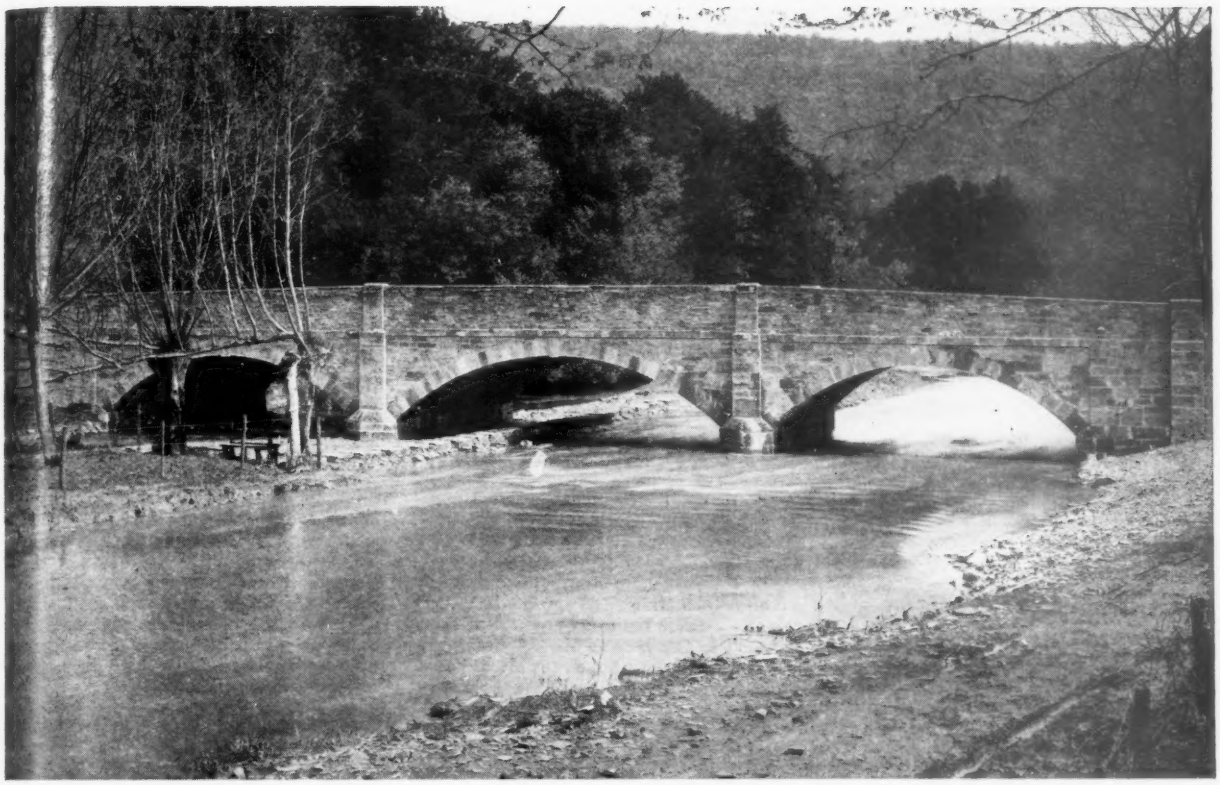


Fig. 3: Aymestrey Bridge over the River Lugg, Herefordshire. Photo, G. Roberts, Hereford

being 108 ft. The piers were about 100 ft. long, so long, that one of them accommodates a chapel in which the remains of the shepherd-architect were laid in the year 1183.

The bridge was intact in 1385 when some of the arches were demolished by order of Pope Boniface IX as a protection against his enemies on the opposite bank.

The name of Benoit is associated with the building of another bridge in 1164, viz. the Pont du Maupas over the Durance.

Apart from his genius as a bridge builder his claim to fame lies in his initiation and leadership of an Order of Bridge Brothers (Fratres Pontifices), a religious or quasi-religious body of men devoted to the good work of assisting pilgrims on their long journeys to the shrines.

They not only built bridges, they erected hostels near the fords and ferries, and judging from what remains of their work they possessed the rare quality of combining strength with beauty.

The brotherhood did not function in England; their activities on the Continent were in evidence in 1265, when they built the Pont St. Esprit, which occupied them for 32 years. After the close of the 13th century the work of bridge building seems to have been done by itinerant craftsmen who were closely associated with the Church.

In pre-Christian times, the office of Chief Bridge-builder was appropriated by the highest in the land. The High Pontiff or Pontifex Maximus. This title shorn of its practical applications is still held by His Holiness the Pope.

Throughout the Middle Ages the successors of the Bridge Brothers were closely associated with the Church, and many beautiful bridges still stand to their credit. A small bridge with ribbed and pointed arches at Fountains Abbey is one.

An inscription on old Culham bridge over the Thames expressed the current belief exactly:

'Of all workys in this world that ever were wrought Holy Church is Chefe. Another bleseid besiness is briggs to make'.

Travellers and pilgrims as they crossed the infrequent bridges on their way to the shrines had this sentiment in mind and expected to find a chapel and crucifix on the bridge as an outward and visible sign of this 'blessed business' of bridge building.*

The Bishops' registers contain many references to the good work of making and maintaining bridges. Bishop Spofford of Hereford in 1423 is recorded as granting an indulgence of forty days for the space of two years to those who assisted in the repair of Bransford bridge in the County of Worcester.

The constructional difficulties with which the ecclesiastics were confronted were greater than ours. They were woefully short of equipment and mechanical aids, and possessed but little scientific knowledge. It was a case of trial and error involving some bitter disappointments.

Strange to say they succeeded where we often fail, in combining strength with beauty. The forms which we now admire were adopted not always from choice but of necessity. The early builders could not deal with long spans, the sturdy piers and short spans supporting a narrow roadway all contributed to sightliness. The first consideration was then, as now, utility; nevertheless there is a charm about their work which is outstanding.

The beauty in the bridges is of the same order as the beauty in the cathedrals—a sense of dignity and individuality. Even the faults in construction which a practised eye can detect do not offend in quite the same way as faults in modern work.

The pointed arch (Fig. 2), which was so much in favour in the 13th century, was specially suited to small spans, and in addition it was economical in material. The area of the spandrils was reduced, which helped the waterway in flood times. In cases where the river banks were high its adoption meant that the apex could be carried up nearly to road level and at the same time the springing could be kept near the water's edge. Some typical examples of pointed arches are:

Balgownie	River Don
Llangollen	River Dee
Elvet (Durham)	River Wear
Clopton	River Avon

* Chapels are still standing on bridges at Bradford-on-Avon, St. Ives and Rotherham.

The mode of construction in piers, arches and retaining walls often fell below what we should consider sound work. The face work of uncoursed rubble was good, but the filling was often poor, sometimes merely loose rubble. In some cases the filling below flood level was grouted with lime, but not always.

The piers were mostly V shaped, both up and down stream, but this was not a hard and fast rule—at Clopton bridge, Stratford-on-Avon, the cutwaters are on the up-stream face only.

These cutwaters were carried up to the top of the parapets, and the spaces in the angles above road level were and still are used as refuges for pedestrians. They also served to break the straight lines of the parapets which gave a pleasing appearance. Sometimes the top of the cutwaters terminated in a splay at about road level or were finished by step masonry; a flat pilaster was sometimes run up from the top of the stepping to the coping level; this method was common in the 18th and 19th centuries.

Be it said to the credit of the early builders, they took great care in the selection of their building stones, both as regards durability and colour—a most important consideration.

For many years the writer was in charge of the county bridges in Herefordshire. The Rivers Wye, Teme, Lugg and Arrow are crossed by many beautiful bridges of all periods in lovely settings. Except in cases where they have been slighted by cheap methods of repair or reconstruction, they actually improve the landscape.

By cheap methods I mean the substitution of cement or concrete for masonry and the adoption of 'cut and struck' joints for the old irregular method. In some cases the cutwaters have been truncated and the wound covered by concrete in order to enable the parapet to be run straight through instead of following the zig-zig of the cutwaters, a cheap and ugly method! While this so-called economy is not noticed from the road level, the appearance from the river bank is distinctly ugly, not that it matters much nowadays as people rarely see a bridge from the river bank. In these days of high speed, the bridges are crossed unnoticed; their appearance does not count.

The phenomenal increase in road traffic during the last forty years has necessitated demolition or widening of very many ancient bridges of character and beauty. This was to be expected on the main roads. The gap between the demands of the 14th as against the 20th century is far too wide.

'The old order changeth
Giving place to new'.

At the same time there are many fine bridges on the less frequented by-roads which can be made to serve for many years and which should be repaired, strengthened and preserved, which could be done at low cost. There is far too little discrimination in the replacing of old good-looking bridges by ugly new ones, which is a waste of time and money; to say nothing of the undesirability of creating a blot on the landscape.

How is it that much of the modern work lacks beauty and harmony and looks precisely what it is—the cheapest method of bridging a gap—utility first and last? The answer does not come readily.

The obvious difference is not due to superior skill possessed by our forefathers or to any financial advantage which they possessed; they had neither. Perhaps it is that beauty in bridges as in most other things depends not entirely on material things but on the spirit in which the work was undertaken. The Herefordshire experiment which I will describe goes far to prove the truth of this assertion.

The common method of executing bridge building and repairs is through the medium of contracts, which arrangement works quite well in cases where the nature of the work can be precisely specified but fails in the case of ancient structures where the exact requirements cannot be ascertained from a superficial examination. It is impossible to specify the essentials of beauty as applied to ancient bridges.

The ordinary rigid contract is essentially a commercial affair. The contractor undertakes to execute the exact amount of work specified in the precise manner described, and no more and in fixing his prices he includes for profit and risk. His men must be paid Trade Union rates for a fixed number of hours. They in turn are content with doing the amount of work which will justify their wages. They are not in any way disqualified if they take no interest in the work, and they are not supposed to be interested in such abstract things as beauty and amenity. What the engineer, the contractor, or the public think of the result of their labours is quite beside the point.

This outlook is the reverse to what is known as 'The Guild Spirit', which prevailed in the minds of the early Bridge Brothers. The ancient work was plain and attractive! The modern is plain and often unattractive! Is the difference due to the processes or the men? The materials and the elementary processes were the same in the case of Bénézet's bridge, but the men and the conditions under which they worked were very different!

There is an old saying 'the workman makes the work but the work also makes the workman'.

In the West Country (Hereford) a few years ago it was decided to supplant contracts for bridge work by direct labour methods. The first task was to find suitable men, which proved difficult, but in time they were found and engaged on repair work. The close contact between master and man was soon appreciated. Any sign of a man's interest in his work was encouraged and increased by his being enlightened on the merits of the old work, the age of the bridge upon which he was working, its history and outstanding features.

In a very short time the men responded heartily to the new conditions. Their interest in the work was obvious, and after a year had passed 'outsiders' began to comment on their good work. After a lapse of five years the skill of the men and the high character of the results of their efforts became commonplace, the appearance of the restored bridges left nothing to be desired, and not only was there improvement in the bridge work, the men had become competent and intensely interested in what they were doing, so much so that I have known them return to their work in the summer evenings for the mere pleasure of it without asking for payment. The work had indeed made the workmen!

Maximum pay for minimum work was *not* the main objective. Fig. 3 shows a bridge over the River Lugg in N. Herefordshire, which they built from the foundations. They quarried the stone, transported and dressed it, and produced a result as good if not better than anything accomplished by their ancient prototypes.

The secret was out! Work of character can only be produced by men with an interest in what they are doing; all depends on the spirit in which the work is done.

On 10 September 1932 a Guild of Modern Bridge Brothers was initiated, which all the men joined with enthusiasm.

A short list of objects and rules was drawn up and a copy given to each man. It read as follows:

The Object

To encourage enthusiasm in good work for its own sake and a right understanding between employer and employed, and to render competent and honest service in the matter of bridge building and repairing.

Constitution

The new Brotherhood consists of:

A Master	..	Red badge
Two Wardens	..	Blue badge
Twelve Brothers	..	Green badge

who will meet for discussion at least once a year.

The Badge

Each member will be presented with a badge, which he retains so long as he is a member of the Guild.

The device on the badge is the same as that used by the original Bridge Brothers, viz.: a Greek TAU or T, the cross bar terminating in stone hammer or axe heads. The shaft representing an Auger the heraldic bridge surmounting the badge is the emblem of the Modern Guild.

The Rules

1. To carry out the duties of Master Mason, Carpenter, Mason's Assistant or Labourer in a competent, honest and sober manner.

Any member who is negligent, wasteful or dishonest in his work will run the risk of discharge from his employment and expulsion from the Guild.

2. To work as well without as with supervision.
3. To call attention to any inferior or unsuitable material.
4. To study the work and the manner of its execution with a view to increasing efficiency, and so assure that membership

of the Guild is a guarantee of high competence and good character.

Note.—Free lectures will be arranged to assist members towards this end.

5. Each man on admission shall promise to observe these rules and endeavour to make the Guild famous for good work and loyal co-operation.

The Duties of the Master

To design and be responsible for the work, and to see fairness done as between employer and employed.

To encourage the men in good craftsmanship and to examine any complaints or difficulties, and to give his decision thereon.

The Duties of the Wardens

To convey to the men the instructions of the Master.

To keep the work under constant supervision.

To warn the men in case of any misbehaviour or slackness, and to report any delinquencies and to see that the men are supplied with proper materials and tools.

These rules were loyally observed by all concerned, and the work became a pleasure to Master, Wardens, and Men alike.

In a foreword to a work on British Bridges the Rt. Hon. Oliver Stanley, M.P., said this:

'The older methods endeared to us by the glamour of years and associations will still, we may trust, hold their own in settings to which they are adapted, and it will be the aim of all enlightened local authorities to preserve ancient structures which serve as visible links between our days and the vanishing past.'

We may indeed trust that the course advocated will be taken wherever possible. I suggest that the result of the practical experiment which I have described will be some encouragement to Local Authorities and their advisers who have ancient bridges of beauty in their charge and that they will see to it that these structures are not marred, much less demolished, without very careful consideration.

I have said many old bridges will have to disappear, having outlived their usefulness, and these no doubt will be replaced by ferro-concrete structures. There is no reason why a concrete bridge should be ugly, but a survey of those erected so far will show that the quality of beauty is rather hard to find.

Government Departments rarely give orders bearing on æsthetics. The following issued by the Ministry of Transport in 1943 is an exception:

'Every care should be taken not merely to safeguard existing amenities but to add to them.'*

The creation of an object of beauty does not depend on rules and regulations or on the expressed desire of any body or person. It depends on the outlook of the designer and the men who execute his design, assisted by fair conditions of employment. My conclusions are:

1. That all ancient bridges of historic and architectural value should be dealt with through the medium of craftsmen directly employed by the Local Authority.
2. That the Local Authority should have the assistance of the Ancient Monuments Department of the Ministry of Works in their dealing with all scheduled bridges. The skilled men now employed by the Ministry could render great assistance in this matter. They have already shown what they can do in the admirable work of preservation of many famous abbeys and castles.

*Memorandum No. 575 on the Layout and Construction of Roads. Ministry of War Transport 1943, page 4.

The opening session. Professor A. Hoechel speaking: Lt.-Col. H. P. Cart de Lafontaine, *[F]* in the chair with, on his right, Professor W. Dunkel

The First Congress of the International Union of Architects—Held at Lausanne

By Professor Leslie Wilkinson *[F]*

THE VERY SUCCESSFUL Congress held at Lausanne provided those taking part with an opportunity of meeting three or four hundred colleagues from some 30 nations under delightful conditions in spite of indifferent weather. The programme provided a refreshing mixture of meetings, visits of inspection, receptions by Government civic and architectural bodies and hospitable entertainment.

The Congress proper lasted from 28 June to 1 July, but before this the Constitution Assembly, meeting on 25 June and following days, was engaged in winding up—or allowing to run down—the C.P.I.A. and the R.I.A. and the creation of the International Union of Architects. U.I.A. delegates to the Assembly were the guests of the Swiss Section of U.I.A., and I am sure that all are deeply grateful for their wonderful hospitality. On these preliminary days meetings were held in the stately Palace of the Federal Tribunal at Mon-Repos, on board a lake steamer and at an hotel in Montreux, and were interspersed with receptions, lunches, dinners, visits to Neuchâtel, the Château d'Auvernier—and its cellars, to Montreux and the Rochers de Naye, culminating in the never-to-be-forgotten banquet by candlelight in the Great Hall of the Château de Chillon, and the election of Sir Patrick Abercrombie as the first President of the Union.

These preliminaries concluded, statutes and bye-laws approved, after a certain amount of discussion in several languages, some wishing to simplify and others to complicate matters, the first Congress of the new organization was opened in the Guest Hall of the University of Lausanne. Speeches of welcome were followed by the opening of exhibitions of Town Planning for Lausanne and of work by students of the University School of Architecture, and after dinner, music and fellowship.

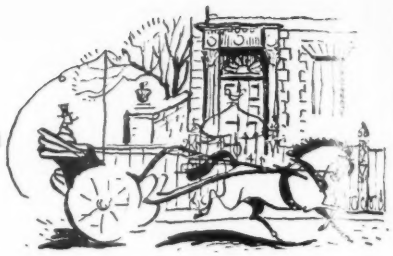
The general theme of the Congress was 'The architect faced by new tasks', and the subjects for discussion at the three sessions were: (1) The Architect and Planning (Urbanism); (2) The Architect and Prefabrication (Industrialization of Building); and (3) The Architect, State and Society. A large number of papers on these subjects had been submitted, and a precis or general report on these was delivered at the meeting, followed by discussion. The results are to be published later in the year.

Afternoons and evenings were occupied by visits to recent buildings of every sort, guided often by their architects—housing, colonies, hospitals, cemeteries, beach pavilions, hydro-electric stations, air ports, abattoirs, churches, universities, offices, schools, museums, swimming baths, gymnasiums, restaurants, etc. Special trains and motor coaches took us to Gruyères—strawberries and cream!—Fribourg, around Lausanne, an evening trip on the lake, and finally the official banquet and ball.

Following the Congress, a study tour, from 2 to 5 July, made possible visits to Geneva, Berne, Zurich and Bâle. In every city the local architects entertained us and conducted us over the most interesting recent work. The tour was followed by excursions from 5 to 10 July to Winterthur, St. Gall, Coire, Lugano, Lucerne, etc.

Those responsible for the organization of the Congress deserve our hearty thanks and congratulations on the efficient manner in which they carried out a difficult task with such success. Switzerland is a great school of architecture. Rich in the minor buildings of medieval times, liveable buildings human in scale, these traits are also to be seen in the modern work—direct and simple planning on ample sites, no details denied, careful thought and perfect craftsmanship, well placed sculpture and painting, skilful lighting, natural and artificial, and the use of vegetation in and out of doors. We learnt a lot, made many friends and saw the wellbeing of a skilful and industrious people. Is it too much to hope that other organized professions and trades will follow the architects' example in getting together internationally as a step on the road to world peace?

Noise. The Acoustics Group Summer Symposium



By Stanley Meyrick [*A*] of the Building Research Station

Held at the R.I.B.A. 14–16 July 1948

THE FIRST international conference ever to be convened on problems of sound transmission and noise met, under the joint auspices of the Acoustics Group of the Physical Society and the R.I.B.A., in the Henry Jarvis Hall, 66 Portland Place, London, W.1, on 14 July for a three-day exchange of information and opinion. Delegates from abroad included representatives of Finland, Belgium, Denmark, France, Switzerland, Holland, Italy, Norway, Sweden and the United States, and altogether one hundred and eighty people enrolled themselves as members of the conference. About 40 papers were read. They were divided into five sessions, two of which dealt with matters strictly (and, may it be confessed, somewhat abstrusely) scientific and mathematical, concerning principally the making, analysing and measuring of noise; two were devoted to problems of sound transmission in buildings, and one to 'papers of architectural interest'.

It was appropriate that for this session Hope Bagenal [*F*] should be chairman, and he took the opportunity to emphasize the importance of the architect's part in this wide field of investigation, pointing out characteristically that health depends on sleep, sleep on quiet, and quiet on the architect's ability to interpret and to use effectively the scientist's results. It was, he said, a measure of the interest which architects were taking that the conference was being held at the R.I.B.A., and, indeed, that a number of the papers were contributed by architects.

One of these (by W. A. Allen [*A*] of the Building Research Station) revealed the extent of the problem of sound transmission in domestic work. It discussed in some detail the results of a survey made in this country which showed that a very high proportion of people—two in every three dwellers in a framed block of flats for instance—were troubled by the inevitable noises of their neighbours' everyday living, particularly by the banging of doors, plumbing noises, footfalls on stairs and floors and the crying of infants. It pointed out also that the activities of a sensitive family may be dreadfully circumscribed by their anxiety not to disturb their neighbours and that no child can be happy who is constantly being told to be quiet. Similarly, a paper by Dr. J. L. Burn, medical officer of health in Salford, discussed the problem in schools, and described some of the ill-effects on the health and efficiency of both staff and pupils of the high noise levels often found even in recent school buildings. He complained—significantly—that 'architectural (sic) methods in many schools do not abate noise'.

Sound transmission therefore received, as might be expected, a lot of attention, and it was interesting to hear from Dr. Aston, for instance, of recent work done at the National Physical Laboratory on the effect of ties in cavity walls. This has shown fairly conclusively that ordinary strip ties at the normal 3 ft. 0 in. by 1 ft. 6 in. spacings minimize the effect of the cavity to such an extent that the wall is little more effective as a sound reducer than would be the same weight of material built solid. Even light-gauge wire 'butterfly' ties reduce the insulation, particularly at the lower frequencies. Without ties, on the other hand, 11 in. cavity brick walling easily provides 55db. average reduction and may therefore be expected to achieve the recommended standard for party walls in houses provided, of course, that the indirect paths are not overlooked.

The National Physical Laboratory has also been working on floors. In timber, no less than 20 different types of floor have been studied to find out just how the sound is transmitted. Measurements of their airborne and impact sound insulation have shown that the simplest modification of the normal timber floor to give a significant improvement is the 'raft-on-insulating-quilt' type. This, with the addition of about 15 lbs. per square foot of pugging to improve the insulation of low-frequency components, will provide 55db. reduction of airborne sound and gives rather more than 20 phons improvement over an untreated floor, which makes it suitable for use as a 'party' floor. The technique of building 'floating' floors in both timber and concrete was discussed by H. R. Humphreys [*A*], who described the floating floor which the Building Research Station developed—a 2 in. reinforced screed of concrete supported clear of the structural floor on rubber cubes introduced through screw-threaded sockets cast in the screed—as the most efficient which had yet been devised, but too elaborate and expensive and indeed more efficient than is normally needed in anything but work requiring a very high degree of insulation—broadcasting studios, acoustic laboratories, etc. For ordinary purposes, resilient quilts were efficient enough as 'floaters', and floors incorporating them could be built reasonably economically though some care in detailing and workmanship were necessary if 'leakages' either through free air paths (easily overlooked in timber construction) or rigid links (too easily formed if concrete is carelessly poured) were not to make nonsense of the whole thing.

The technique of measuring the attenuation of sound in both building elements and in finished buildings was discussed at considerable length, and it was clear that, hitherto, not only have laboratory measurements been somewhat unreliable as guides to the performance of materials in buildings, but methods of measurement—and consequently results—have differed widely from laboratory to laboratory and from country to country, making direct comparison impossible. This has been a serious handicap to research workers, who have long felt the need for international standards of measurement. Considerable progress towards this goal has now been made by a working committee of Danish, Dutch and British scientists, whose proposals, the results of an extensive series of measurements of a standard construction by a variety of measuring techniques, were presented at this conference for the first time by Dr. F. Ingerslev of Denmark. The lack of international agreement extends also to definition and nomenclature, and Dr. Giacomini of Italy, discussing the problem of the many ways in which the sound insulating properties of structures could be determined and expressed, urged the need for world-wide standardization of acoustical terms and definitions. Mr. Fleming, of the National Physical Laboratory, suggested that this was a matter which might well be taken up by the International Standardizing Association with which the British Standards Institution was closely associated. Certainly without agreement, at least on terminology—a subject which admittedly bristles with difficulties—it would seem that progress must be impeded and much effort expended in unnecessary duplication of work.

Nevertheless, in spite of these difficulties, there appears to be no lack of active field work. The Dutch, as reported by Dr. Kosten, have built a large block of experimental dwellings in Rotterdam, in which they intend to measure and compare the airborne and impact sound insulating properties of a variety of methods of construction, both old and new, and to study such related problems as the abatement of noise nuisance from sanitary installations and domestic machinery of various kinds.

Noise in ships is being studied in Belgium, where Dr. Grunenwaldt and Dr. Germaine have recently completed an exhaustive series of measurements on board the two new mail boats operating between Dover and Ostend, whose engine rooms have been 'soundproofed'. And in France the immensely difficult problem of noise in aircraft is being tackled by *M.* P. Chavasse, who described the work he is doing with *M.* R. Lehman on various types of motors and apparatus.

Evidence of British field activities stood outside the door of the R.I.B.A. during the first day's session, in the form of the magnificent new mobile acoustics laboratory of the Building Research Station. This vehicle—all glistening 'perspex' and trim battleship grey paint, neat off-white lettering and golden Royal cipher, as roomy as a general's caravan, and indeed similarly equipped with radio-telephone and 'intercom' in addition to its very well designed array of knobs and dials—displayed on its hardwood and linoleum laboratory bench, beneath its 'anglepoise' lamp, a formidable programme of field investigations which are at present being made both in this country and abroad. These include a forthcoming visit to Rotterdam, where measurements will be made in the experimental flats described by Dr. Kosten, for comparison with those to be made by the Dutch engineers. It is gratifying to know that Britain is to be represented abroad by so sound and sensible a piece of design and craftsmanship. Already, at home, it has been used most effectively in conjunction with the technique of social survey, to determine the actual insulating efficiency of a variety of buildings and relates the values obtained to conditions within the buildings as described—or, more frequently, complained of—by the tenants. In this way, as P. H. Parkin, who has been largely responsible for the development of the mobile laboratory, pointed out, it should be possible eventually to determine precise building standards for both airborne and impact sound insulation for any type of building and occupancy. The extensive data Parkin presented—measurements made in a large number of occupied flat dwellings by his team of Building Research Station physicists and architects—indicate that there is still much to be learnt.

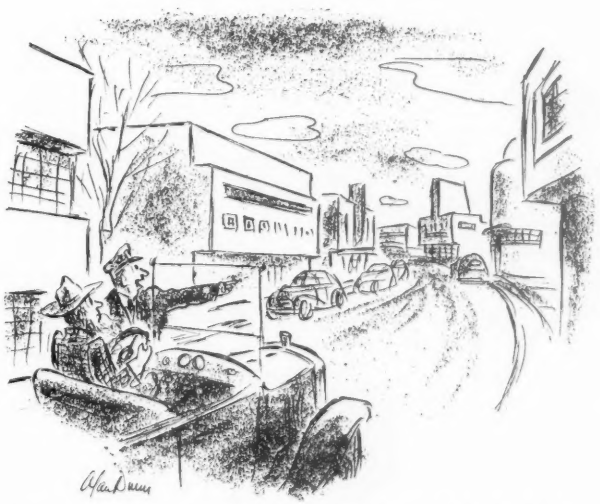
In the non-mobile laboratories, meanwhile, much ingenuity is being exercised to devise cheaper and more accurate ways of assessing the acoustic properties of materials. Dr. Leo L. Beranek described, for instance, a United States research project, the object of which is to develop a 'compact test facility' for measuring the attenuation of sound by partitions without recourse to the cumbersome and expensive 'two-room' method. With the aid of this apparatus it was hoped to arrive at a theory by which the attenuation to be expected from both simple and complex structures could be forecast, and results so far achieved with a small scale model show an encouraging degree of consistency between measurement and calculation. Dr. W. Furrer, of Switzerland, described in some detail an apparatus designed to determine the mechanical properties of resilient materials suitable for use in floating floors. Quilts of glass silk, textile fibres, vegetable fibres and sponge rubber have been examined, and the results appear to show conclusively that of these glass silk is by far the most satisfactory.

Sound-generating devices too have been receiving attention, and Dr. Jordan of Denmark expressed the view that the tapping machines hitherto used for the measurement of impact sound reduction would no longer be satisfactory if frequency analysis was to replace sound level measurement. He called for a review of the methods of definition and measurement of impact sound at present in use, and suggested that an intermediate standard should be agreed upon, pending the development of some sound-generating device more satisfactory than the tapping machine.

Among the many other papers contributed mention must be made of *M.* Francois Canac's exciting reminder—indeed masterly exposition—of the lessons to be learnt from antiquity. He has made an intensive study of the acoustics of ancient theatres and, with the aid of a delightful set of illustrations, he outlined the research work he has done on the examples at Orange and Vaison both on their sites and with model reconstructions. It was most unfortunate that the time allotted to him on this occasion was so short—such infectious enthusiasm should never be curtailed—and one is tempted to suggest that he should be invited to speak at the R.I.B.A. If this is not practicable, could not Hope Bagenal be persuaded to read us a translation of his paper?

What can the architect glean from all this? Perhaps not very much that is new, but there is encouragement surely in the realization that the scientist appreciates not only the growing importance of the problems associated with noise, but also the valuable contribution which the architect himself can make to their solution. Team-work was indeed much in evidence, and the symposium provided a great opportunity for comparison of results, exchange of ideas and a general consolidation of the work already done. At the same time it became, one might say, the concentration area, the forming-up place, of the forces for the next assault. There is, clearly, a great deal that is not yet known, a field of investigation which calls for the most widespread intensification of research if results of real practical value to the architect are to be achieved. The objectives are clearly defined: there must be international agreement on standards, methods of measurement and nomenclature; the adequacy of already adopted standards must be verified by intensive field work; architectural design and structural method must be carefully studied to make quietness certain, easy to achieve and reasonably cheap. The strong international force convened here by the Acoustics Group promises a successful campaign.

In the evening of the first day the conference visited a Film Studio and a visit to the Acoustics Laboratories of the National Physical Laboratory was made after the Third Session on 15 *July.*



'No, No—there's the hospital, this is the school, that's the theatre—then comes the shopping centre—next to it the church—then comes the bus terminal—'. Drawn for the ARCHITECTURAL RECORD by Alan Dunn and reproduced by permission of the Editor

Control of Urban Redevelopment: An Examination of Current Proposals

By Percy J. Waldram, F.R.I.C.S. [*L*]

IN DEMOCRATIC countries, where parliamentary machinery exists for the prompt amendment or repeal of laws which have proved to be unsatisfactory, officials are apt to endeavour to enact reforms by means of rules and regulations which have been too hastily compiled. Seldom, however, do we find so many occasions for criticism in any single regulation as are embodied in the latest directive of the Ministry of Town and Country Planning on restrictions intended to prevent over-building in the central areas of our towns and cities.[1]

This official publication decrees a radical change in the pre-war method of limiting permissible obstruction under town planning regulations. Hitherto, this vitally important factor in any urban scheme has been effected (at least in the area controlled by the London County Council, the only local authority which has properly administered the Town and Country Planning Act of 1932) by means of simple dimensional limitations on permissible building heights and degrees of obstruction, coupled with certain restrictions on 'site cover' or the proportion of the area of a site covered by buildings of given height. Control by percentage limitation of site cover increases in severity with the size of the site; but so also does the possibility of reducing obstruction by open planning, as will be shown later. Local authorities are, however, now instructed, with the stated object of giving architects greater freedom, to abandon altogether the system of *ad hoc* dimensional limitation in favour of an indirect form of control permitting anything which enables any obstructed building, actual or potential, to comply with an official 'daylighting code'. This code is defined as the ability of a stated value of daylight factor to penetrate, at table height, to a given distance back from specified fenestration. Up to the present it has only been defined officially for offices, at one per cent daylight factor 12 ft. back from windows 10 ft. by 10 ft. and 3 ft. apart.

This method of indirect control by code was briefly described in the report of Dr. Holden and Professor Holford on Post-war Reconstruction in the City of London, where it was recommended for obligatory adoption at some future date, after it had become more familiar as its advantages became known by reason of the voluntary adoption which, it was suggested, could be expected from wise ground landlords. In the meantime it was recommended that overbuilding in the City should be restricted to buildings 100 to 120 ft. high, presenting obstruction equivalent to that occasioned by a continuous horizontal sky-line subtending 56 degrees (1½ to 1) as across streets flanked by buildings of regular unbroken height.

Floor Space Index. This was to be supplemented by a compulsory limitation of the density of the accommodation to be provided on any one site determined by some value to be fixed for what was termed Floor Space Index (F.S.I.). For any typical street block of central urban buildings surrounded by thoroughfares this was stated to be the sum of the areas on different floors of the roofed-in accommodation (e.g. offices) measured over inside and outside walls, corridors, lifts, staircases and lavatories; but not over light wells nor access passages nor streets in the block; divided by the area of the block plus half that of surrounding roadways.

Open Planning. Factual survey of conditions obtaining in 1939 had indicated that past generations of greedy overbuilding had been so inefficient and so wasteful of valuable site area that a compulsory limitation of F.S.I. to about three would not only restore the pre-war average density of office accommodation in the City but permit of its reasonable expansion: whilst the employment of modern methods of skilful 'open' planning for daylight would enable this to be achieved within limits of equivalent obstruction far less than 56 degrees across streets, especially in the development of large sites.

It was somewhat startling, however, to learn from a subsequent official article explanatory of control by code in the issue of the R.I.B.A. JOURNAL for August 1947[2] that compliance with the code for offices entailed the rebuilding of fabulously valuable City office blocks to present an equivalent obstruction across streets of only 35 degrees, or that of a typical row of suburban villas. Still graver concern was caused by some palpable errors in the official article. As, however, it was reported in the daily press that the Minister had warmly welcomed the City report with its recommendation that code control should be voluntary until it had survived the acid test of application to practical problems, the article evoked no criticism beyond the correction of an obvious printer's error.

Now that the official directive has abandoned the wise *festina lente* policy of the City report, and has made control by code compulsory everywhere, in addition to citing the article in the R.I.B.A. JOURNAL[2] as the official description, close and critical examination of it without delay becomes imperative. Some vital matters leap to the eye at once as tending to render it ineffective, unworkable and unjust.

The Official Code Ineffective. The new method purports to control overbuilding through the position of a given daylight factor contour. The laying down of such contours, however, entails such a prohibitive amount of tedious work that the Ministry recommends that ability to comply with the code should be measured by certain special protractors. It is admitted that these protractors as set out are only correct for offices which are wide enough to require more than one window 10 ft. wide. In the R.I.B.A. article this is excused (p. 496) on the ground that 'in most cases where deeply penetrating daylight is most valuable, the room will be large enough to require several windows'. These words really constitute a frank admission that control by code as officially described, without any dimensional limitations, leaves the majority of central urban offices without any protection at all, and therefore fails to achieve its main object. It even legalizes that which it is designed to prevent.

Impossibility of Administering the Code. No official guidance whatever is given on the very vital point as to whether compliance with the code is or is not to be independent of existing obstructions. It may well be intended (and probably is) that any rebuilding is allowable, as under dimensional restrictions, which is fitted to take its place in some general plan which will only attain full efficiency when the whole central urban area is rebuilt.

On the other hand it may, under code control, be contended that it is illegal to rebuild any part of a valuable gap blown by bombing in the middle of an unduly high façade, unless and until obstructing neighbours also rebuild. This is improbable, but the architect and the town planning committee must know. Even when this question is answered joint control by code and by F.S.I. will still remain unworkable until a decision is come to as to whether basements are or are not to be included in the vital F.S.I. calculations. The approved City report wisely excludes them, whereas the Ministry booklet specifically requires them to be included. Probably the City report is right. It can make no difference to the obstructiveness of a building whether it has or has not one basement; or, like some banks, several basements.

In view of the frequent possibility of lighting a ground floor extending over the whole site with the aid of skylights planned in the interstices of indented upper floors, it might be found desirable to limit F.S.I. figures to values for the floors above the ground floor if they are to be used to control obstruction to windows.

There is yet a further moot point about which a decision must be reached before control by code can be administered at all, either with or without the alternative of dimensional control. Many, in fact the majority, of central urban sites are lit from the front, and sometimes from the back also, but very seldom indeed from the flanks. Are rebuildings to be so planned as to leave adequate light to potential new buildings on all sides? Sites liable to code obligations along the flanks should clearly be of a stated minimum width.

[1] Redevelopment of Central Areas. H.M.S.O. 1947. 12*s*. 6*d*.

[2] *R.I.B.A. Journal* August 1947. Vol. 54, No. 11, pp. 491 to 499.

Injustice of Control by Code alone. Control of overbuilding by code alone is essentially unjust inasmuch as it is intended to enable the utmost advantage to be taken of the possibility of reducing obstruction which is known as 'open planning' by which small sites cannot benefit. Open planning is based on the fundamental structural principle of so arranging occupational units on plan that as many as possible can be grouped round, and enjoy the light from the same patch of unobstructed sky, and thus share the burden of sacrificing valuable site area in order to keep that patch clear. Obviously this entails the elimination of the old-fashioned and palpably inefficient 'light well', more or less central on plan and enclosed on all sides, in favour of open-ended indentations in the outer walls. These indentations must be wide and around them must be grouped the maximum number of occupational units. This is illustrated by the cruciform plan of the well-known London Transport offices over St. James's Park Station at Westminster, and in office blocks of Y, E and similar plan forms. As the occupational unit of urban offices is an interior 10 to 20 ft. wide and deep, the advantages of open planning are only possible on fairly large sites, and unfortunately the typical central urban site is small. Frequently it consists of the ground upon which stood originally a terrace dwelling-house 20 to 30 ft. frontage with a garden at the back, the latter being generally now roofed in and lit by skylights. To make obligatory for such sites a code based on the possibilities of open planning on large or island sites would be so unjust as to evoke a storm of opposition sufficiently powerful to endanger the permanency of any town planning enactment.

Suggested Modifications. Clearly dimensional restrictions must exist side by side with code control. Obviously also the effect of both should be identical if administration is to be freed from the certainty of perpetual wrangles as to whether any given site is or is not so conveniently shaped and large enough to benefit by open planning. As restriction to 35 degrees in narrow central urban sites is unthinkable, especially if it is to operate on flanks, the point immediately arises as to whether there can be any intrinsic merit which renders sacrosanct the 1 per cent daylight factor value officially specified for offices. The reply of the experienced daylight expert is that it can be nothing more than guesswork, because objective research on the reactions of the human eye to variations of daylight factor values has hitherto stopped short at the neighbourhood of about 0·2 per cent, and it is well known that above about 0·5 per cent the eye is as blissfully unconscious of huge differences in intensity as the mariner, when once afloat, is of the difference between one fathom, or two, or twenty, to spare under his keel. We know from exhaustive Government tests[3] that a large consensus of recorded opinions by all sorts and conditions of workers in all sorts and conditions of offices has established beyond all question that the 'grumble point' of ordinary people for ordinary work comparable with easy clerical work for reasonably long periods, was, as had long been assumed from evidence in the Courts[4], about 0·2 per cent daylight factor; and that with horizontal obstructions or their equivalent this was always quite close to the 'no-sky line', the setting out of which is simplicity itself. When it is discovered that buildings 100 ft. high at a distance of 100 ft. would create through ground floor windows 10 ft. high a no-sky line about 12 ft. back, a compromise modification of the code from the one per cent daylight factor contour to the no-sky line practically suggests itself. This would have the added advantage of reducing or eliminating the necessity for protractors, correct or otherwise, and reverting to the simple, well-known and easily applied old angle of 45 degrees for dimensional limitations. It would seem to be at least worth a trial.

In view of the vital importance of the matter to all our cities and towns, with their war wounds still gaping and untended, to say nothing of the urgency implicit in the fact that wise property owners are already outlining their post-war plans, there would appear to be little doubt as to the desirability of the R.I.B.A. convening without delay a committee of architects experienced in the design of central urban buildings to consider and report promptly on the many important practical problems involved. Any such committee would do well to solicit the valuable assistance of the Ministry of Town and Country Planning, the D.S.I.R., the consultants responsible for the Report on Post-War Reconstruction in the City of London; and last, but not necessarily least, the London County Council.

Alternative to Code Control. The object of code control with its protractors is to avoid restrictions on height where adequate restrictions in lateral obstruction can be substituted. If the no sky line be substituted for a daylight factor contour there is every reason to anticipate that this could be achieved geometrically.

[3] D.S.I.R. Illumination Research, Technical Paper No. 12. H.M.S.O.
[4] 1922/2/CH. Semon *v.* Bradford Corporation.

Diamond Engraving on Glass

By Peter T. Smith [*L*]

WHILE VISITING the Victoria and Albert Museum a short time before the last war I was especially impressed by the very beautiful ancient diamond engraving on some of the choice pieces of glass in the collection. The restful beauty of its line and form captured my attention and made me wish at least to study its lost art and try to understand the manner in which it was carried out some three centuries ago. As I became more deeply involved in its ancient history and practice, its exquisite richness awakened within me the complete desire to achieve my object.

My earlier study of draughtsmanship, anatomy, and the background of having lived all my life in the country provided me with ideas of original design, but the transformation of these ideas on to glass had yet to be mastered.

The only assistance which history offered in the art of diamond engraving was the finished work. Numerous diamonds were cut to various angles before the most suitable angles were produced, and by patience and practice over some three years I achieved results of which the accompanying illustration is a fair sample. Many glasses were broken, some of which were old and of 'silky' texture, as the slow process of the experimental stage progressed.

Centuries ago, when beauty and art had a fuller meaning and were better understood, there were schools of diamond engraving on glass, where were educated the old masters, such as de Lysle. In Switzerland today there is one diamond engraver on glass who is certainly achieving a very high degree of efficiency in the art. An English school of diamond engravers on glass may yet arise.

It is impossible to say what types of student are most likely to be successful in the art. From what we know of the past, the most gifted were of the highly nervous and sensitive type. It is all important for the student to complete his design in the mind, and with deep feeling and expression carry his design to the diamond point engraving the glass. The highest degree of concentration and balance of uniformity of mind, eye and hand are called for, with complete control of the diamond point. Unlike painting, the art does not allow for mistakes which may be rectified.

Example of Mr. Peter Smith's work. Photo, Victoria and Albert Museum

Second Report of the Architectural Science Board

The Teaching of Construction

Written in 1942 and now published by direction of the Council after circulation to schools of architecture

INTRODUCTION

1. The First Report of the Committee dealt with 'The Place of Science in Architectural Education': The present, or Second Report, deals specifically with the subject of Construction. Its aim is to discuss the scope of the subject and to offer suggestions as to its treatment in the curriculum.

2. Some of the reasons why the subject of construction should be regarded as of outstanding importance to architectural students were outlined in the First Report. Special stress was then laid upon the necessity for adopting a more scientific and methodical approach than has been called for in the past when change took place slowly and the industry experienced long periods of relative stability. Modern changes in materials and technique*, and in the nature and standards of the demands made upon the architectural profession and the building industry, have given rise to complex and exacting problems. These exemplify the importance of the study of construction to the architect, and the need for the adoption in the schools of all those methods likely to make for improvements either in the subject-matter or in the instruction.

3. The general considerations which may be deemed to support the recommendations made in this Report are as follows:

(i) The architect has a special responsibility. He, alone, is in a position to decide what materials shall be employed, and what technique shall be associated with their use, and to know, or to some extent to control, the conditions to which they will be subjected in the finished building. These last factors naturally depend upon features which are characteristic of the complete design and of the equipment and uses of the building. The architect therefore is in a unique position to influence the orderly development and rationalization of building materials and building technique, and, if his judgment is based on a sound scientific training, he may prove to be one of the major instruments by which the technical achievements of the industry may be brought to higher levels. On the other hand, if the architect of the future does not adopt a scientific attitude and acquire an adequate knowledge of the science of building, he will be less able to retain that controlling position in the building industry which he has hitherto held. If, in default of this, a sharing of the responsibility results, it might well have an adverse effect upon the quality of building and upon architectural design itself.

(ii) It is obvious that the Building Industry has an important part to play in the national economy of the future. Consequently, it will be under close observation and subject to criticism from all sides. It is vital that all steps should be taken to promote efficiency in the industry, and while the move should come from within the industry rather than as a result of pressure from outside, the architect can promote this efficiency by ensuring that his buildings are 'economical'. He can best do this if he has a clear understanding of the constructional functions of the buildings, and of each of the components, and by arranging that these functions are fulfilled efficiently and without great excess above actual requirements, i.e. without waste.

(iii) The number of technical failures that have been reported show how inadequate has been the knowledge of the fundamental principles* underlying building processes. Attention has, therefore, of late years been directed to building research, and considerable advances have been made. Very much more research work remains to be done—the scope seems unlimited—but already a stage has been reached where building practice lags behind the scientific knowledge which has been developed. It is essential, therefore, that there should be a radical change in the outlook of the schools regarding the teaching of the subject of construction, and every effort should be made to raise the status of the subject and give it adequate treatment in the courses.

(iv) The subject of construction has, in the past, provided a common basis of study, both for architectural and building students, and has contributed substantially to effective co-operation between architects, builders and craftsmen, in the practical field. It is more than desirable that there should be a common outlook in the architectural profession and throughout the building industry, and it would undoubtedly follow that improvements in the teaching of construction in the architectural schools would influence the whole of the teaching of this subject in the other schools and colleges throughout the country, and would have beneficial effects upon both design and technical practice.

*In this Report on the Teaching of Construction, the term 'technique' is used to denote the method of executing some specific building operation—it includes the processes of selecting, preparing, proportioning and arranging appropriate materials or finished components.

*The term 'principles' is used to denote the fundamental ideas or natural laws underlying different forms of construction and those upon which technique is based. Those principles may sometimes be referred to specifically as 'scientific principles' when, for instance, the direct application of known laws of mechanics, physics or physical chemistry is envisaged, in contrast to the application of empirical laws.

OBJECTS OF THE CONSTRUCTION COURSE

4. The objects of the construction course are to give the architectural student a sound training in the subject, so that finally:

(*a*) he will be able to assess what are the requirements to be satisfied by any building which he may be called upon to design, and by its component parts. That is to say, he will be able to appreciate fully what are the *functions* of the building and of its constituent parts.

(*b*) he will be able to judge what *materials*, *technique* and *organization* will meet these requirements in the most economical and efficient manner that circumstances will permit. This involves a knowledge of building plant and equipment, its uses and limitations, and its employment in the erection of a building.

To attain its objects—to ensure that the student has an understanding of *function*, *materials*, *technique* and *organization*—the construction course must therefore be so arranged that—

(*c*) he will learn, either in the construction classes or in close connection with them, how the complex sequence of operations which go to the making of a modern building is divided between the personnel concerned and how the various operations have to be timed in order to avoid delay and confusion.

(*d*) he will gain a sound and well-balanced knowedge of contemporary building practice, develop a faculty of critical appreciation based upon the possession of an adequate knowledge of the basic sciences, and be thus equipped to deal with any new building materials and methods which may be proposed in the future.

THE STUDY OF 'PRINCIPLES'

5. A major difficulty which is experienced in the schools, is how to deal with the mass of detail which has become incorporated in the building construction courses. The

tendency for the courses to degenerate into expanding catalogues of imperfectly related data should be strongly resisted, and it should be recognized that it is not possible for the student to learn while he is at a school or college all that there is to be learnt about building materials, technique and organization. It is extremely important therefore that the student should be provided with a framework into which he can fit, not only the knowledge he gains in the school, but also knowledge accumulated during his later professional career, whether that knowledge refers to well-tried practices or to new developments in materials or technique, and whether that knowledge is based on the findings of research or upon practical experiences. The main need is for a wider and more scientific outlook on the subject and fuller emphasis on 'principles'.

'Principles' can only be studied adequately if the student acquires and applies his knowledge of the basic science subjects: the student must recognize that these subjects are of practical value to him as an architect, and are not 'extra' subjects, a knowledge of which can be dispensed with in after-life. He should also recognize that such knowledge does not conflict in any way with his appreciation of and concern for the æsthetic value of architecture. Quite the contrary, for this knowledge should stimulate and broaden his imagination, and direct it along sound lines for the development of architecture. Unless an artist does appreciate the possibilities as well as the limitations of his media his art will be devoid of meaning and value.

With good teaching the student will not only learn facts relating to the basic science subjects, but will acquire a scientific outlook upon building materials and building techniques, and will develop a sense of critical appreciation that may be applied to both old and new problems. Unless the architect has received such sound training and acquired a knowledge of the relevant pure science subjects as a student, it will be only in exceptional cases that he will have either the inclination or the opportunity of developing them in later life, and he will, in consequence, be seriously handicapped in his profession.

THE CO-ORDINATION OF SCIENCE, CONSTRUCTION AND DESIGN

6. To attain the objects outlined in the preceding paragraphs, the Committee consider that the three time-table subjects—Construction, Building Science and Building Design—are inseparably linked, and it attaches the utmost importance to co-ordination of those three subjects at every stage in the course. There will naturally be a certain amount of overlapping, particularly between the Construction and Building Science courses and within reason this is not undesirable.

The view points of the various teachers on these subjects will in all probability differ to some extent; the approach in the Building Science course, for instance, will differ from that in the Construction course, but the two subjects will be complementary.

By a proper co-ordination of the three subjects it should be possible to maintain the interest of the student in each at a high level, and he will, all the time, be conscious of the interdependence of the three subjects and be less likely to concentrate his energies on any one of them to the exclusion of the others.

7. To effect this necessary co-ordination three main means are suggested:

(*a*) Regular staff meetings devoted solely to co-ordination. Such meetings are already usual in good schools, and have proved of great value. They are of indirect value, also, in that the outlook of the teachers themselves is thereby widened.

(*b*) Special sessions with the students to link up all the various aspects of particular problems, and held at suitable stages in the course relating to the students' educational development. As illustrations of the type of problem which might be dealt with in this way can be mentioned those relating to flat roofs, parapets, the use of timber, concrete floors, etc. Naturally it would be ideal to cover the whole field of building in this way, but since this is impossible it is desirable that at least the student should be encouraged to think in this way about his problems.

(*c*) The students should be required to study selected subjects, to view them from all aspects, and to prepare essays or theses incorporating their knowledge. Also much might be done by setting in the examinations, questions which necessitate the co-ordination of matter dealt with in the three courses—Construction, Building Science and Design. Such 'omnibus' theses or examination questions would make more tangible to the teachers the task of co-ordination, since they would need to discuss between themselves the topics in considerable detail.

It will be seen that the treatment of construction, along the lines advocated in these reports, anticipates to some extent the responsibilities of the architect in the technical field. The justification for the control of design by the architect in so large a field as building, must rest, not so much upon his ability as a technician—for such he cannot claim to be over so wide a range of techniques—but upon his broad general grasp of these techniques and upon his capacity to combine them as elements in a coherent, efficient and pleasing whole. But, in this capacity, it will be seen that the architect is so largely responsible for choosing the materials and techniques which are to be used, that, in the majority of cases, it is to him that the craftsman and specialist must look to establish conditions enabling them to make their respective contributions most effectively and on a progressive basis.

Progressive change means continuous change, though it may only affect a small part of the field of technical practice at any one time. This policy therefore imposes upon the teacher the constant necessity for reaching conclusions regarding the attention to be given to materials and techniques of recent origin and to the elimination of non-essential matter from his syllabuses. This is a task which gives rise to problems which cannot be resolved by the unaided efforts of individual teachers. This would be so even if the sources of technical information were brought fully up-to-date and greatly improved. There is a need, therefore, to establish educational machinery whereby the teaching material utilized in the schools is under constant and expert review. A committee or board of studies might therefore be set up, consisting largely of those actively engaged in the schools and thoroughly conversant with the work. To carry out their duties effectively they should have the assistance of research and technical representatives on the one hand and representatives of the principal examining body or bodies on the other. Such a committee or board would not attempt to come to final or binding conclusions, but would give a lead to the schools and examining bodies, at the same time drawing their attention to reliable and suitable sources of information. The discussions would follow along lines similar to those adopted in these Reports, but, by sitting more or less continuously, development might thus be on progressive and evolutionary lines.

The lack of such machinery, securely established, for the discussion and comparison of scope and methods of teaching, results in variations in the emphasis placed on construction in various schools, and a lack of balance between the treatment of established and new methods of construction. Furthermore, these variations have a secondary effect on the teaching since they affect the status of construction teachers, and affect the degree of recognition afforded to their work in the different schools. Such differences in status do not make for unity and coherence in the complete educational scheme; moreover they give rise to a serious lack of appreciation of the importance of the subject of construction.

THE TEACHING OF CONSTRUCTION

(a) The Functional Approach

8. It can be laid down that every building and every component of a building has certain essential functions to perform. These functions should be performed efficiently and at the same time, economically, since a great excess in performance or cost over and above that required for efficient service is just as much a fault as is inadequacy in performance.

Hence, in the teaching of construction, a clear exposition should be given of the functions of buildings and of the components of buildings, i.e.:

(i) *Functions of different types of buildings considered as units.* It is the function, for instance, of all buildings to provide adequate strength and stability, but the actual requirements are very different for, say, multi-storey framed buildings, multi-storey buildings with load-bearing walls, shed-type factory buildings, etc. Similarly, it is the function of all buildings to provide a degree of protection against the weather protection against fire, insulation agains, the transmission of heat and sound, and,

maybe, facilities for the efficient daylighting of the interior, resistance to air-raid attack, etc., but the requirements which are to be satisfied are very different for different types of structure. This study of the functions of a building as a whole is clearly related to the study of the design of buildings, and, in some cases, all or part of it may be considered in the 'design' rather than in the 'construction' classes. This again emphasizes the very important point, that design and construction are intimately related, and however the material is allocated it is essential that there should be very close co-ordination between the two courses.

In the later years of the course, construction should drop out of the curriculum as a general subject, but specialized branches should be dealt with under appropriate headings and be closely linked with and applied in the design work. Designs should not be accepted unless the student had studied the construction problems involved and showed that he had a clear idea of the methods of construction necessary to translate the designs into actual buildings.

(ii) *Functions of the individual elements which go to make up a complete building.* The functions of these individual elements should be studied, not only in terms of their own individual characteristics, but also in terms of the requirements imposed upon them by the particular requirements of the building as a whole, as studied under (i).

As a first step in the analysis, a broad classification of the main components of a building might be considered, since in these the general functions can be clearly defined. The list given below is one example of such a classification: foundations; basements and works below ground; structural frames; external load-bearing walls; external wall panels in framed structures; roofs and roof coverings; floors—structural; floors—wearing surfaces; internal walls and partitions; external wall facings; internal linings to walls, partitions and floor soffits; fireplaces, hearths, flues and chimney stacks; stairs and staircases.

Building equipment of all kinds, particularly as it affects planning and construction, can also be considered functionally. The following list is a further example of a suitable classification: drainage and sanitation; water supply; heating and ventilation; decoration; electricity supply and installation; gas supply and installation; telephone installation; lifts, hoists, escalators, and their installation.

It is not, of course, intended that the items listed above should be treated, once and for all, by the teacher at some particular stage in the course. The major items will recur from year to year, showing a suitable educational development at each stage. So, too, each item after being discussed as a whole, e.g. in the introductory talks referred to later, may be sub-divided and further discussed until the function of each simple building process that is studied has been made clear, and the process itself critically appreciated. In fact, the normal method of approach to the teaching should be to discuss the purpose or function of each process or detail and to consider how, and to what extent that purpose is accomplished.

(b) The Study of Materials

9. The arrangements made for the study of building materials again illustrate the necessity for collaboration and co-ordination. As was outlined in the First Report, this study would be undertaken mainly in the Building Science courses, and in the laboratories associated with them. At the same time the teaching of construction is obviously closely inter-linked with and dependent upon the study of materials. The student should be encouraged to handle materials in the drawing office and lecture room, and the Reference Collection should be readily accessible to the construction classes. This collection should be selected and arranged, free from 'window-dressing', and contain representative samples of good material and examples to illustrate failures, whether these are due to inherent faults, faulty manufacture, or misuse owing to the adoption of unsuitable methods of construction.

Since, both in the design classes and in the construction classes, the forms of construction which are studied are dependent upon the materials employed, the student in these classes is concerned with the specification of materials, as well as with the specification of techniques. There should therefore be close co-ordination between the construction classes and the laboratory classes. The work done in the laboratory should wherever possible be correlated to any relevant specification clauses for building materials—and the latter should be examined and criticized in the light of the laboratory findings. The student also should reproduce in the laboratory types of failure encountered in practice and attempt to elucidate causes and experiment with remedies.

Some of the laboratory work may be carried out in a special laboratory for the mechanical testing of materials and structures, and here again the construction classes should be closely associated with it. The testing of certain materials and of various building components is frequently covered by suitable specification clauses, and the construction student should be familiar with these testing methods and with the standards which are reasonably to be demanded.

In the design and construction classes, too, much use is made of published data—either expressed in the form of graphs, or in formulæ or in tables. These data are apt to be copied from one book to another, and become out-of-date, so that they again should be examined critically either in the construction classes—or where more appropriate, in the building science classes. The reliability and the limitations of such data concern very closely the work of the construction and design classes.

A further point regarding the study of materials, is that, often, a great deal of time is devoted, in the construction classes, to descriptions of manufacturing processes. The Committee feel that much of this descriptive work could well be omitted, and only those portions included which provide useful illustrations of some scientific principle in the Building Science Classes or have a direct bearing on some property of the manufactured product which is of importance in its practical use.

(c) The Study of Technique

10. Fundamental principles may not in all cases be easy to define, but where possible they should be disentangled and the teaching based on them. Where 'principles' cannot as yet be laid down, at any rate methodical arrangements of the subject matter of the course can be based upon the functional analyses referred to earlier. It is then to be expected that the 'principles of building' will gradually be elucidated and a more scientific treatment of the subject developed.

The instruction given in the schools at present is based very largely upon the broad trade divisions of building. These trade divisions, again are largely based on the basic building materials—brick, stone, timber, concrete, steel, limes, plasters, cements, etc., so that it is perhaps natural that the same divisions should be applied to the education syllabus. It is thought, however, that the trade divisions should not be allowed to dominate the arrangement of the subject matter. If the functional approach is developed, the trade divisions will not be so significant as will common functions or principles.

The study of technique, as already mentioned, should be based upon functional analyses. It is intimately bound up with the study of materials as has been indicated in the preceding paragraphs, and with the study of organization. To be successful, close co-ordination with both the Building Science and the Design courses is essential.

The student should be taught and encouraged to examine for himself, not only what contemporary methods and processes are applied, but why they are employed, and to what extent they comply with practical requirements as determined by functional analyses. Such treatment should not be restricted to broad subdivisions, but be extended to the details of construction, such as the form of carpentry joints, steelwork connections, etc.

In this way specification clauses dealing with technique would be brought under review and examined critically, just as would the materials clauses referred to earlier. In fact, the whole of the technical material in specifications ought to come under review at one time or another during the course. There is no doubt that many anomalous and obsolete requirements would then be brought to light. This would contribute to the improvement of specification in practice.

If there is close co-operation between the construction classes and the laboratory classes, as advocated in para. 9, experimental work could be undertaken to demonstrate to what extent specification clauses dealing with technique were based

upon sound principles and expressed in the most suitable form.

As an instance, a study of the techniques of rendering and plastering would prove of considerable educational value to a student if it could be shown in the laboratory,
(*a*) how the behaviour of plaster is affected by variations in the texture and absorption of the background;
(*b*) the effects of poor, excessively fine sands;
(*c*) the relative effects of thick and thin coats, etc.

Certain general principles could thus be demonstrated, and failures resulting from non-compliance with these principles could be reproduced in the laboratory and recognized in practice. Specification clauses could then be applied—or modified as needs arose—in an intelligent manner, and not regarded as arbitrary and fixed irrespective of actual conditions. For more advanced or post-graduate work these laboratory studies could be developed, and investigations could be undertaken to determine why and when two or three coat work is needed, and what are all the relevant factors affecting the finished result, and what is the influence of each. The findings of the advanced work could then be absorbed in the earlier courses as the more fundamental principles were elucidated.

The study of prefabrication methods should similarly be included under the study of techniques. The likely development of prefabrication methods will obviously have a great influence upon all branches of construction. If the instruction in the schools has been on the lines suggested in this Report, it should be sufficiently wide to enable the necessary adjustments in outlook to be made rapidly and intelligently.

(d) The Study of Organization

11. In this Report it is suggested that the study of plant, equipment and organization should be included in the Building Construction course—or if as an alternative it is treated as a special course on Building Practice, this should be considered as an integral part of the Building Construction Course and run in very close connection with it. Different schools may find one scheme more convenient than the other, but there is much to be said in favour of the first arrangement. Thus, in many cases, building technique cannot be effectively studied without consideration of the plant and equipment to be used,—e.g. concrete mixers, reinforced concrete framework, etc. (see (iii) below). If separate courses are run for Building Construction and Building Practice the overlapping which would result would not be altogether objectionable provided effective co-ordination was arranged.

The study of plant, equipment and organization thus falls under three main headings:
(i) An appreciation of the responsibility of the various personnel involved in the numerous phases of activity connected with the construction of a building; what instructions and information are given to the personnel concerned and in what form and through which channels it is transmitted.
(ii) The sequence and correlation of the various operations which are involved in building work; the times allotted to them, and the stages at which requisite information and instructions are issued, and by whom.
(iii) The plant, appliances and equipment which have to be provided for the performance of the various operations, and the effect these have on technique. Economy in design depends to no small extent upon a knowledge on the part of the designer of the uses and limitations of specialized equipment.

In addition to these matters, consideration must be given to the legal responsibilities of the architect with regard to the safety and comfort of operatives and to third-party liabilities in such matters as safety, noise, encroachment on light, etc.

GENERAL SUGGESTIONS

12. **Introductory Lectures.** The emphasis on the functional approach to construction, which is recommended throughout this Report, may be assisted
(i) by an introductory talk at the beginning of the course, showing that buildings have certain functions which are common to them all—while other functions relate only to particular types of building, and are peculiar to them.

The aim should be to stimulate the students to be curious as to *why* the buildings they see are of the form they are, and to develop their critical faculties by encouraging them to consider fundamental requirements which may easily be lost sight of. Obviously this initial lecture should be general in character and not so technical as to be unintelligible to students just beginning their course. The broad principles can be developed as the students mature. They can be encouraged to develop them for themselves, e.g. by appropriate questions in test or examination papers.
(ii) by an introductory talk to each major section of the course, dealing mainly with the broad functional aspects of the particular part of the subject to be discussed. In this same talk, an attempt should be made to formulate any broad principles that are applicable to the particular section of the work. Comparatively little attention has been paid to the enunciation of principles until recent years, when great strides have been made in building research, but there is a great deal of new ground to be broken in this respect.

It is unlikely that any major section of the course can be fully treated in detail at any one stage in the students' educational course. The more advanced and the more special phases will naturally be taken in later years than the more general and more elementary work. This will be necessary for several reasons—the students' knowledge must develop on a wide basis, on account of correlation with the building science courses on the one hand and the design courses on the other. At the same time his knowledge, while of limited scope, must be sufficiently detailed for him to apply that knowledge in the design or studio work. The short introductory talks referred to above should therefore be developed each year to co-ordinate the new with the old work.

13. **Workshop training.** The desirability or otherwise of providing workshop training in architectural schools has been debated on many occasions. It is probably impracticable to undertake workshop training in such schools, if only because sufficient time cannot be devoted to it to make it effective without seriously infringing on the time devoted to other important subjects in the curriculum. Nevertheless, the Committee feel that, ideally, if workshop training could be arranged—and they do not rule out the possibility—then it would be desirable to do so. If such courses should be instituted, then their aims should be clearly recognized—to be illustrative of fundamental principles, to familiarize the student with the way the operative sets about his various operations, and to bring out in him a knowledge of and respect for the crafts.

The special building laboratory work envisaged in paras. 9 and 10 to a certain extent covers the need for workshop training, as the student can gain some experience in such fields as the handling of plaster mixes of different plasticities and of different setting properties, e.g. lime, Portland cement and gypsum. The significance of these properties can be demonstrated quite effectively in a laboratory, and their importance impressed upon the student to an extent which is impossible by other means.

14. **Visits to Buildings.** Visits to buildings, both under construction and in use, have always been included in the school courses. Where such visits are related both to the school course and to the experience of the student, they are of great value, since they can translate the abstractions of the studio and lecture into concrete form. Too often, however, owing to the obvious difficulties of co-ordination, such visits tend to become casual. To avoid this they should be so arranged as to illustrate specific points over the entire range of the curriculum. On the constructional side reference should be made to the use of materials to exemplify the reasons for their selection and their methods of assembly; and, of course, attention should be drawn to failures and their causes.

The site work and organization should be similarly studied, with particular reference to the various stages of erection. To enable this study to be made effectively the sequence of visits must be carefully arranged, and the students' interest in the specific points to be studied must be aroused by adequate preparation. Preliminary talks, and a study of the drawings of the buildings to be examined are of great use.

It would be of great value to the students if a suitable practical man, with wide experience on good jobs as a foreman or clerk-of-works, were available (i) to discuss with individual students constructional problems arising out of their design work,

(ii) to give advice and instruction in the handling of materials and tools in the laboratory, and (iii) to accompany students on visits to buildings and explain what practical difficulties were being experienced and how they were being overcome

15. **Drawing.** Graphical representation is and has always been an essential part of the Building Construction course. Its aim should be twofold: firstly, to serve as a means of study, and to enable the students' knowledge of building construction to be crystallized with due regard to practical requirements; secondly, to familiarize the student with the method of providing and transmitting information by means of drawings. A further point, which is often overlooked, is that the mental discipline and sense of order impressed upon the young student in the preparation of a detailed working drawing is of considerable educational value to him.

It is seen, therefore, that draughtsmanship is a means of acquiring or transmitting knowledge. The Committee feel that, in the past, it has frequently been considered as an end in itself, and that a disproportionate amount of time has been devoted to draughtsmanship in the building construction classes. The conditions governing the award of various prizes in construction by both the R.I.B.A. and the schools are an indication of this attitude. It is considered that drawing work should be carefully controlled, and that methods of study less costly in time and repetitive in process should be used to a much larger extent. Only of studies which do impart information to the student should drawings be made and these should be accompanied by calculations, notes and reference to relevant B.S. Specifications. In this connection the substitution of sketches for drawings, and the devotion of more time to functional analyses of elements should be considered.

16. **Scholarships and Prizes.** The subject of construction should, in general, be raised in status in the schools, and students should be encouraged by prizes or other inducements to devote more attention to it. Thus, though critical studies of constructional problems are occasionally presented as theses, much more might be attempted along such lines.

A thorough knowledge of construction is of such vital importance to the architect, that, it is suggested, facilities should be provided in the schools for post-graduate work on the applications of science to construction, and along appropriate lines of specialization.

SUMMARY OF RECOMMENDATIONS

17. The recommendations of the Committee are:

(i) that, as was suggested in the First Report, construction should be studied as such during the first three years of the architectural course; in the last two years instruction should be given in selected specialized branches of the subject; and beyond this facilities should be provided for post-graduate study and research.

(ii) that this post-graduate work in construction should be specially encouraged, and scholarships and prizes be awarded to further it.

(iii) that, as the subject matter of the course is so extensive, it should be methodically arranged and emphasis should be laid on 'principles' throughout. The aim should thus be to develop a framework into which a student can fit both the detailed knowledge absorbed in the classes, and that acquired in later years during his professional career.

(iv) that, as close co-ordination of the work in the building science, construction and design classes is essential, this co-ordination should be assisted by:

(*a*) regular staff meetings devoted solely to co-ordination;

(*b*) special sessions with the students to link up all the various aspects of particular problems;

(*c*) essays, theses and examination questions involving a wide outlook and a co-ordinated knowledge of the problems dealt with.

(*d*) detailed study of some of the constructional and other problems involved in the designs evolved in the studio classes.

(v) that throughout the instructional work, consideration should be given at every stage to the aspects covered by the terms *function*, *materials*, *technique* and *organization*.

(vi) that special lectures or talks should be given to introduce the whole course and special sections of it, in which should be emphasized broad principles and the functional approach to construction;

(vii) that drawing work in the construction class should be regarded not as an end in itself, but as an essential instrument for the teaching of construction;

(viii) that laboratory training should be recognized as an essential part of the course and should be closely linked with the study of specifications.

(ix) that visits to buildings, either completed or under construction, should be carefully organized, and that the purpose of each visit should be clearly defined. In particular the opportunity should be taken in such visits to strengthen the aspect of co-ordination, and to show the interdependence of planning and design, the functions, materials and technique of construction, and site organization.

(x) that a suitable practical man, with wide experience as a foreman or clerk-of-works on good buildings, should be available at each school, to advise students on practical problems and to accompany them on visits, etc.

(xi) that, in order to assist the schools in the development of the subject of construction along progressive and evolutionary lines, a committee or Board of Studies should be set up. The members drawn from those actively engaged in and thoroughly conversant with the work in the schools would be assisted by research and technical representatives on the one hand, and representatives of the principal examining body or bodies on the other.

Book Reviews

The Architectural Setting of Anglican Worship, by *G. W. O. Addleshaw* and *Frederick Etchells*. 288 pp.+12 pls. 57 text plans Faber & Faber. 1948. 25*s*.

It is strange that this book should have followed so closely on the heels of *Stuart and Georgian Churches*. Fortunately both books are complementary and, for the time at least, they hold their field alone. Whereas Mr. Whiffen illustrates and deals with the buildings in a way likely to attract the general reader as well as the architect, this work is of a specialized nature and its appeal will be mainly to the serious student of church architecture.

A great deal of the argument is liturgical in character and controversial for, while the authorities are indisputable and well presented, some may consider them unrepresentative and overstressed and the case unproven.

From chapter to chapter a fascinating story unfolds of the post-reformation efforts of Anglicans to bring the congregation into association with the priest in a combined act of worship, culminating in an almost universal Victorian arrangement of a stalled chancel, with a surpliced choir, uniting the minister and his flock.

The writers attribute the introduction of surpliced choirs to the new parish church of Leeds, built in 1841, and thereby link them in date with the Cambridge Camden Society, to which Society they are something less than just. Actually there is a record of one at Sneinton, Notts, in 1831, and there may, of course, have been others. It is true that the early Camdenians were passionately devoted to the idea of a complete revival of mediævalism and were responsible for a number of churches with long, screened chancels, such as St. Saviour's, Leeds; Highnam in Gloucestershire, and St. Paul's, Brighton, but this phase did not last long and Father A. D. Wagner, who was the first vicar of the Brighton church, a fine work by R. C. Carpenter in 1846, also took part in the building of St. Martin's and St. Bartholomew's in the same town. St. Martin's (Somers Clark, 1872) marks a sharp break with earlier ideas, but St. Bartholomew's (Edmund Scott 1874) is really revolutionary. A great rectangle, 135 feet in height, with its unobstructed high altar elevated for all to see, it is one of the most impressive monuments of the century. The authors make no reference to this or to any other churches of similar type.

The movement towards screen-less, chancel-less, open churches, prior to 1930 which our authors cite as a turning point, was not confined to one school of thought as is evidenced by St. Matthew, Cheltenham (Ewan Christian 1877) and Christ Church, Brixton (Beresford Pite 1899).

Once again it is surprising that there is no reference to St. Mary-in-the-Castle, Hastings, 1828, a church with a most

interesting plan, but this, and the other points mentioned, weigh but lightly against the real scholarship of the book.

W. W. BEGLEY [L]

Hill's Complete Law of Housing. Suppt. to the 4th edn. By *John Montgomerie*. 9¾ in. ix+45 pp. Butterworth; Shaw. 1948. 7*s*. 6*d*.
This supplement deals mainly with recent changes relating to compensation, and is divided into three parts. The first consists of an introduction summarizing changes since the main volume of the 4th edition was published last year, and giving brief details of the more important relevant cases. Part II, a Noter-up, indicates the pages and sections in the main volume that are affected, while Part III contains new legislation on housing, acquisition of land and compensation, which has appeared since 1 December 1946.

A Glossary of Wood, by *Thomas Corkhill*. 7½ in. viii+656 pp. "Wood", Nema Press. 1948. £1 1*s*.
This glossary originally appeared serially in the monthly journal WOOD, and some 10 years inevitably elapsed before the final instalment was published. Now, revised, enlarged and brought up to date, it has been issued in book form. Explanations of about 10,000 terms concerned with timber are included, and more than a thousand of these are illustrated by clear line drawings. Handy in size and attractive in appearance, the Glossary of Wood should prove useful to all engaged in design and construction.

The Planner's Notebook. A compendium of information on town and country planning and related subjects. Ed. by *H. Myles Wright*. 8½ in. ix+390 pp. Architl. Press. 1948. £1 10*s*.
Now that the State accepts responsibility in the community's interests for all land use, the number of planners increase, their responsibilities extend, and their need for a comprehensive reference book becomes more urgent. Mr. Myles Wright, whilst modestly insisting that his 390-page volume is no more than a notebook, has gone far towards satisfying the planner's requirements.

The book is designed to deal firstly with those fundamental planning problems which recent legislation is intended to solve, and secondly, with particular aspects of planning legislation, administrative standards and technique. It includes 272 excerpts from official reports and from articles and statements by recognized authorities. These are arranged alphabetically under the titles normally used in planning circles, but there is also a detailed index, which most readers will probably prefer to use.

The Neighborhood Unit Plan. Its spread and acceptance. A selected bibliography with interpretative comments. Compiled by *James Dahir*. (Russell Sage Foundation: Social Work Year Book Department.) 9 in. 91 pp.+front. New York. 1947. ($1.00.)
A study of the gradual recognition during the past 20 years of the concept of the planned residential neighbourhood as a basic unit of town planning. Primarily intended for American readers as a guide to more detailed research, it gives appreciable space to developments abroad, especially in Great Britain.

Nairobi: Master Plan for a Colonial Capital. A report prepared by L. W. Thornton White, L. Silberman, and P. R. Anderson. (Municipal Council.) 12 in. ×9½ in. vii+92 pp.+pls., some folding. H.M.S.O 1948. £1 1*s*.
Nairobi is the capital of a vast African land in rapid transition from tribalism towards an unpredictable future. Because of Nairobi's elevation it is a European town. It is pleasant to live there; one has fewer of the neuroses, so many induced by physical discomforts, of the steamy forest or coast lands. It doesn't even look like Africa.

The authors of this report have treated it as such. They have no other course, lacking models of native kind, and the future they plan for this expanding capital follows the generous, humanistic and normally amorphous lines of the typical town plan conceived in words, figures and two-dimensional plans and diagrams.

What it safeguards is more important than what it plans: a clear-looking road structure, but inadequate if the forecasts of motor traffic expansion are to be accepted; open spaces following water courses and lacing the built-in areas of the future; a grim wedge of industrialization that has only economy to recommend it; a civic and governmental centre of unimpeachable rectitude but little inspiration.

It will, one can tell from the zoning map above, have suburbs of winding roads, with detached houses in many styles of building, bowered in trees and flowers, for it is one of the penalties of the large-scale planner on paper that he has little right to assume anything different from what has been in the immediate past; and by the same tokens the government centre, despite some fashionable orientation not to be taken too seriously, is more of a gesture than an affirmation of architectural belief.

Such vaguenesses are imposed upon the town planner by the nature of the task. To be detailed would be fatal; the broad view is needed, but in matters such as roads, the decisive outline is everything.

This master plan is sensible, structural and generous, but no work of art. The report is excellent and will be extremely useful to those whose job it is to carry planning on and into execution. Drawings and plans are rather inferior in execution and the format and typography produced by the Stationery Office is far below the level of the Jerusalem City Plan report, though the subject matter may well be of greater importance in the future.

E. MAXWELL FRY [F]

Jerusalem City Plan, by *Henry Kendall*. 9½ in.+12 in., XI+123 pp. text illus.+map in cover. H.M. Stationery Office. 1948. 21*s*.
On the termination of British administration in Palestine it would have been opportune to record fully and impartially the past thirty years of planning in Jerusalem. This has not been done in the lavishly produced report recently published. Brief descriptions and illustrations of some of the early planning schemes are included, but the valuable and interesting civic survey studies of the city have been omitted. The author devotes considerable space to the correction, elaboration and revision of a planning scheme prepared nearly twenty years ago, adopting for the new the faults of the old regulatory and restrictive control of development. Detailed and often irksome building by-laws, limiting construction and design, predominate.

Many of the promising provisions of the early schemes, such as the preservation by acquisition of the Mount of Olives for a nature reserve and the clearance of the city slum areas, have not been carried out. Some building has taken place on the Mount of Olives and there is no evidence in the report of local or central government housing. All this after so many years is disappointing.

A subject for congratulation is chapter six—The Architecture of the Old City. Both photographs and measured drawings reflect the excellence of the work done by the Government Department of Antiquities throughout the mandatory period. New building work is also illustrated, but the architects responsible for the design and construction of many notable buildings are not mentioned.

Also included in the report are some unconvincing proposals for the planning of residential neighbourhoods, which appear strangely out of place in a plan for Jerusalem. The detailed schemes for a monumental forecourt to the Damascus Gate and the proposed building over of the ancient Mamilla Moslem cemetery are obviously academic proposals for further consideration.

The coloured plans of the author's revised scheme are difficult to read, owing to the faulty reproduction of the legends, and the watercolour sketches of the city gates are not well reproduced.

The future of Jerusalem is again in the balance. Its chequered history continues, but the way is still open for the United Nations or for those who hold in reverence the Holy City to frame a positive and constructive planning policy, international in character and application.

CLIFFORD HOLLIDAY [F]

The Royal Burgh of Edinburgh, ed. by *Wolf Schmidt* and *Richard Moira*. (Outlook Tower Association.) 7 in. ×8¾ in. (32) pp. text illus. Edin. : Oliver & Boyd. 1948. 5*s*.
A modest, but on the whole successful, attempt to illustrate the historical and architectural features of the city by selections from books and papers that reveal their origins and life in the past.

When the Cathedrals were White, by *Le Corbusier*, translated from the French by Francis E. Hyslop, Jr. 8¼ in. xxii+217 pp. text illus. Lond.: George Routledge. 1947. [1948]. 15*s*.
The writings of Le Corbusier divide the architectural profession into two; those who read them and those who do not. As

far as the layman is concerned, Architecture means churches, and great Architecture means cathedrals—but he differs from Le Corbusier in that he does not think of the cathedrals 'when they were white'.

Through the mire of superficial archæology and the despond of 'pleasing decay', we are all in danger of forgetting the daring of construction and design which in the Middle Ages built such great buildings with so many small stones and such primitive tools. The title of the book was chosen to remind us of the architectural adventure which the cathedrals must have been in the eleventh century, and by comparison, the poverty of spirit at the present time. Le Corbusier has called the cathedrals 'the skyscrapers of God'.

In 1935 he—Le Corbusier, not God—visited America to give a lecture tour. He went as a town planner and an architect. Those who have had the opportunity of going to America will know that one finds what one expects to find—a short visit confirms one's highest hopes or one's worst fears. Le Corbusier is no exception to this generalization, nevertheless this book can be strongly recommended to anyone contemplating a visit to America. It is certain to make the visit more interesting.

This book is too full of quotable remarks to be certain of choosing the one that will sum up his attitude to America. He writes with the greatest admiration and sympathy, for technically the Americans have done what his critics in France and elsewhere have said is impossible, yet he writes too with criticism and wit, for these technical accomplishments are so often barbarous.

Beyond these technical achievements of the Americans, he sees a spirit of adventure and an almost unbounded energy. The youthful enthusiasm of America and the paternal wisdom of Europe are almost platitudinous; one tends to feel that the desire for co-operation between the continents is more a fatherly European idea than an American idea. Le Corbusier, European to the core, fresh from his battles with architectural, municipal and political authorities, writes as a disillusioned idealist who is not yet disillusioned.

HUGH SCORER *[Student]*

Costing for Builders, by *Walter and Leonard Townsend.* (Architectural and Building Series.) 8½ in. 76 pp. Spon. 1948. 7*s.* 6*d.*
A new volume in the Architectural and Building Series, edited by A. M. Chitty, this handbook is intended to demonstrate to the building employer the importance and simplicity of a sound costing system, as well as to serve as a text book for cost students entering the building trade. It is informative, concise and readable.

Design This Day, by *Walter Dorwin Teague.* 9¾ in. 237 pp. + 128 pls. The Studio Publications [1947]. 35*s.*
Mr. Teague is the first President of the new American Society of Industrial Designers; his beautifully produced and illustrated book may, therefore, be taken as authoritative. Anyone who has had Mr. Teague's experience with design generally is entitled to speak as a prophet, and this he does not hesitate to do (in spite of condemning Frank Lloyd Wright for garrulity). The reader must remember that this is an American book or he may be tempted to question the sincerity of much of it, particularly where Mr. Teague describes the mechanical marvels of the machine age with what amounts to a sob in his voice. In brief, Mr. Teague says that as far as design goes we have arrived; with our knowledge of machines, materials, techniques, Greek temples and Gothic cathedrals we have only to press the button and, there is Utopia. As for the Renaissance, Mr. Teague gives it a couple of nods of approval before dropping it over the Golden Gate bridge. The author is a functionalist of what has now become the old school, for him it is not sufficient to express the steel frame of a building in its elevations, the skeleton should be outside for everyone to see, with the building suspended in the middle. However, Mr. Teague is not entirely consistent in his functionalism, for one of the excellent illustrations shows a shapely pair of female legs—simple rightness of form gives us pleasure, and we call it beautiful—waving in the air.

It is perhaps excusable to ask for what class of person this book was written, for although there are one or two new ideas in it, they are hidden in a feather bed of facts known to anyone who has penetrated beyond the first year in any course on design. This is a great pity, for few people can have had Mr. Teague's wide experience; among his clients are many concerns which are household words throughout the world, and his designs illustrated range from lathes to buildings by way of motor cars and railway carriages. This experience should have provided material for a book of the greatest value to those interested in Industrial Design, instead of which, the master speaks, and we are bored.

Mr. Teague has had a lot to do with the design of motor cars, and some of his work is illustrated. Opinion will be divided as to whether there has been much progress since 1931. There are no pictures of current American cars, but Mr. Teague mentions them without condemnation except to say that the automotive designer has defined his theme with many fumblings and hesitations. The vogue of the 'polished glittering meringue' has given place to the 'whale on dry land with its toe nails polished'; future cars, Mr. Teague tells us, will be 'sleek projectiles' which means presumably that the front will be sharper than the back. This at least will be a blessing to the pedestrian and road user at present so confused by the two-nosed type of automobile.

In his opening remarks the author tells us that the book was written in odd moments in odd places, and as an addition to the day's work; though we can sympathize with, and envy so busy a person, we cannot excuse a book so lacking in those clear-cut qualities of design which the author rightly champions in the world of architecture and industry.

GONTRAN GOULDEN *[A]*

Woodcraft in Design and Practice, by *Rodney Hooper.* 2nd ed. 9¾ in. xvi + 160 pp. + xxxii pls. text illus. Batsford. 1948. 18*s.*
A new edition of an essentially practical book on furniture design and construction, first published in 1937. Some new material has been added, and the original text amplified considerably, but the author has succeeded in preserving the pleasing characteristic of providing a minimum of words and a maximum of clear illustrations.

The Old Door Knockers of Norwich, &c., by *Claude J. W. Messent.* 7¼ in. 55 pp. text illus. Norwich: Fletcher. 1948. 4*s.*
The author, who has written extensively on the ancient architecture of East Anglia, claims that this is the first book ever to have been published entirely on door knockers. Forty-five examples in the city of Norwich are briefly described and illustrated by Mr. Messent.

Self Training for Industrial Designers, by *John Gloag.* 7¾ in. 168 pp. + 16 pls. text illus. Lond.: George Allen and Unwin. 1947. 8*s.* 6*d.*
If the title of this ebulliently enthusiastic book is rather misleading, Mr. Gloag explains in the second chapter that it is intended for students of art or technical schools who can draw and who have leanings towards industrial design. Anyone not so qualified is exhorted to put the book down and trouble no more. The pace is terrific, for, like Shiva, Mr. Gloag can point in several directions at once. Roman ornament gets a nasty knock and London Transport, Frank Pick era, a pat on the back which nearly dislocates its neck. The innermost secrets of Birkenhead Tramways and Mersey Ferries are laid bare; Mischa Black and R. D. Russell are seen at work; an unfortunate hotel bedroom of which Osbert Lancaster would have drawn an enchanting picture receives a whole chapter of most amusing abuse. There is also a full page illustration of Sir Giles Scott's telephone kiosk, and even Tommy Handley gets a mention.

The reward for galloping so hard behind Mr. Gloag is that the student may call himself a technician, and is strongly encouraged to wear a black coat, striped trousers and a quiet tie (personal cleanliness, and make-up in moderation for women) to keep a carbon copy of all his correspondence and, judging by the illustrations, have his hair cut with a blowlamp.

GONTRAN GOULDEN *[A]*

Dictionnaire des termes récents, symboles et abréviations. Architecture, art de construire, génie civil, by *Fern. Bodson.* 7 in. xii + 244 pp. Editec S.P.R.L. 1948.
It is almost impossible to keep abreast of the ever mounting flood of new terms used, and often misused, in technical literature. Mr. Bodson, a Belgian architect with a laudable passion for accuracy, has produced this small but valuable dictionary after years of patient research. In it will be found precise definitions of a large number of terms used

by architects and civil engineering specialists in French-speaking countries, the latest decisions on terms and symbols of measurement established by international agreement, exact translations of foreign terms used in French and of metric equivalents of Anglo-American weights and measures. It also includes explanations of many of those confusing initials and abbreviations behind which the technician so often loves to conceal his inarticulacy. Mr. Bodson is preparing a second collection of terms and abbreviations for publication later this year.

Liverpool. Past—Present—Future, by *J. F. Smith, Gordon Hemm,* and *A. E. Shennan.* 9¾ in. viii+81 pp. text illus. Liverpool: Northern Pubg. Co. 1948. 12*s.* 6*d.*
Liverpool is something of an architects' Mecca, and the serious student will require more detail than this book provides, although the general reader may be relieved by its brevity. As the title suggests, it is divided into three parts. In the first, Mr. J. F. Smith, the City Librarian, skims lightly over the city's history. The second is a considerably longer survey of contemporary Liverpool by the main contributor, who is also the editor. In the final chapter, Alderman A. Ernest Shennan discusses plans for the future.

The book is generously illustrated, mainly with photographs, and Mr. Hemm, in addition to supplying more than half the text, has included a few examples of his own draughtsmanship. He is an enthusiast, and in his eager championship of Liverpudlian charms is inclined to lapse into the extravagant language of the publicity agent, a disturbing habit that obscures the merit of an otherwise pleasant production.

A Plan for Taunton, by *Thomas Sharp.* (Taunton Corporation.) 9 in. × 7¼ in. 64 pp. incl. 23 pls. and maps + map in pocket. Taunton: Goodman, for Corpn. 1948. 5*s.*
Taunton has been wise, or fortunate, in retaining so many examples of dignified Georgian building. Hardly less wise, or fortunate, were the Corporation in appointing Mr. Sharp to prepare an outline plan for their town. This combination of circumstance and discernment has produced a distinguished little book.

Spons' Architects' and Builders' Pocket Price Book. 74th ed. *Davis, Belfield and Everest,* eds. 6 in. 467 pp. + erratum slip. Spon. 1948. 15*s.*
A completely revised and re-arranged edition of a time-honoured annual publication incorporating current prices based on contemporary building technique.

School Design and Construction. 1948. *Lancashire County Council: Education Committee.* Ob. 7 in. × 9¾ in. Unpaged. (93) pp. incl. pls. [Preston. 1948.] 3*s.* 6*d.*
An interesting pictorial record with plans and brief descriptive text of new schools projected or under construction for Lancashire County Council Education Committee, mostly by the County Architect's department (G. Noel Hill [*F*]).

Highway Bridge Design, by *David Y. Hill.* 9 in. viii + 264 pp. + front. + xvi + var. pls. text diags. Griffin. 1948. £2 2*s.*
A comprehensive investigation into the design of both steel and reinforced concrete bridges by the author of *Bridge Calculation and Design,* and an obviously competent and practical piece of work. Readers less concerned about structural mechanics than with æsthetic appeal will wonder at some of the plates at the end of the book, but may draw comfort from the reflection that technical interest probably guided their selection.

Practice Notes

Edited by Charles Woodward [*A*]

IN PARLIAMENT

Architects (Employment). Asked if, in consultation with the Minister of Town and Country Planning, he will apportion and distribute among practising architects such architectural work as is now in hand or contemplated instead of confining it as at present to officials of Ministries, county councils and municipal bodies, the Minister of Works replied: It is not the case that the architectural work of my Department is confined to officials, and it will continue to be my policy to entrust important schemes to independent architects where practicable. I have no control over the arrangements of other Government Departments or local authorities in this matter. Asked further if he has no control, would he at least have the courtesy to consult the Minister of Town and Country Planning, and is he aware that complaints have been received that many architects, members of a most important profession, are being put out of business by this State control by the Minister? the Minister replied: No, sir; I am not aware of it. I have had an interview with the Architects' Association, and I have agreed with them that I will endeavour to get the local authorities to take in hand as many schemes as possible, in view of the possibilities of building at a greater pace in future, and I have recently communicated with the local authorities on that point. Asked further whether he could say that the advice of the Royal Fine Art Commission is obtained, the Minister replied: The Royal Fine Art Commission are always consulted by the Government Departments in this matter. (26 July 1948.)

Housebuilding (Architectural Advice). Asked whether he intends to use the powers given to him by section 14 (3) (*c*) of the Town and Country Planning Act, 1947, to require local planning authorities to take architectural advice before approving the elevations and materials of houses to be erected by private persons, the Parliamentary Secretary replied: My right hon. Friend has no reason to suppose that the new planning authorities will not avail themselves of proper architectural advice wherever necessary, and unless experience shows this view to be wrong, he would prefer to leave this matter to their discretion and good sense. (20 July 1948.)

Development Rights (Compensation). Asked from whom claimants may obtain advice and assistance when completing Form S.I. claim for compensation for loss of development rights, the Parliamentary Secretary replied: From persons professionally experienced in the valuation of land. A contribution towards the fees incurred will be paid by the Central Land Board on the scale set out in their pamphlet S.I.A., and subject to the conditions also set out in that pamphlet. I am sending the hon. Member a copy of the pamphlet. (20 July 1948.)

War Damage Commission. Asked what steps His Majesty's Government propose to take in order that the War Damage Commission shall in future be directly responsible to this House for its activities, the Financial Secretary to the Treasury replied: None. (20 July 1948.)

Town and Country Planning (Development Charge). Asked whether he was aware that many people have had plans for dwelling houses approved by local authorities since 1 January last, but because licences to build cannot be granted before 1 July next they may become liable to development charge through circumstances outside their control; and if, in *bona fide* cases of this kind he will defer the date for levying the development charge or make some other equitable arrangement, the Minister of Town and Country Planning replied: I am aware of the position. There is no power under the 1947 Act to provide that the owner of a building commenced after 1 July 1948 shall not be liable to development charge. The Central Land Board, however, have power to accept payment in instalments, and are required to take into consideration any representations made by the applicant as to the method of payment. The applicant will be entitled to claim under Part 6 of the Act. (1 June 1948.)

WAGE ADJUSTMENT UNDER SLIDING SCALE CLAUSE. The National Joint Council for the Building Industry has decided that as from the beginning of the pay week next following 11 July 1948 an adjustment is due of ½*d.* per hour increase in craftmen's rates with labourers' rates at 80 per cent. In the London Area the rates will, therefore, be 2*s.* 11*d.* per hour for craftsmen, and 2*s.* 4*d.* per hour for labourers, and the other district rates will be adjusted accordingly. Apprentices, young labourers and women operatives are entitled to consequential adjustments in their rates of wages as from the same date.

LAW CASE

Bostel Bros. Ltd. v. Hurlock. (Exceeding the licensed amount under Defence Regulation 56A.) This was an appeal by Mr. Hurlock against the decision of the County

Court Judge in favour of Messrs. Bostel, builders, where he gave judgment for £98 4*s*. 1*d*. being additional work done without a licence. The Judge found that the work charged for was well and honestly done; and that on the true construction of Defence Regulation 56A there had been no contravention of the building regulations.

The Court of Appeal in giving judgment said that if the work claimed for was in excess of the cost covered by the licence and could not be brought within the provisos of the regulations, it was illegal, and Bostel Bros. could not claim. If a licence was granted to do certain work at a certain cost and that cost was exceeded it was a contravention of the regulations as there was no licence in existence in respect of the additional work. There was no evidence which would justify the view that the case fell within the provisos of the regulations. The appeal was accordingly allowed and the judgment of the county court set aside. Leave to appeal to the House of Lords was refused.

(The case is reported in THE ESTATES GAZETTE for 3 July 1948, and in *All England Law Reports*, 1948, Vol. 2, Part 8, p. 312.)

MINISTRY OF HEALTH CIRCULARS. Circular 129/48, dated 30 June 1948, refers to land transactions under the Town and Country Planning Act, 1947, and to a Treasury Memorandum describing the general effect of the Act in relation to 'existing use' value and the liability to development charge. The Minister points out that local authorities should take care to pay no more than the restricted or 'existing use' value of land, except in certain special cases which the circular mentions. Restricted value is the basis not only for public acquisition but also for the assessment of development charges under Part 7 of the Act; excessive prices paid for particular pieces of land would tend to undermine the whole structure of the Act, as applying to those claims and charges as well as to the acquisition of similar land. For these reasons the Minister particularly requests local authorities to ensure that no prices are paid for land above those which the district valuer agrees to be appropriate; the Minister, for his part, will not be able, as from the date of this circular, to continue the practice of approving for loan sanction or other purposes the payment of prices which are at all above the district valuer's figure. Nor will he sanction a loan for part of the cost if the local authority have paid an excessive price in total.

Circular 136/48, dated 10 July 1948, refers to the acquisition of controlled materials for housing work. Applications for steel and cast iron authorizations in connection with housing, undertaken under licence or within the free limit of £100, should be addressed in the first instance to the local authority. Applications for building boards for housing should also be addressed to the local authority.

Applications for steel, cast iron and building board for non-housing work to be carried out without licence or within the free limit of £100 should be made to the Regional Licensing Officer of the Ministry of Works.

TOWN AND COUNTRY PLANNING. The Central Land Board have issued a pamphlet S.1.A. (N.R.) setting out the arrangements for 'near ripe' land to be made in England and Wales in the case of builders who claim on the £300 million fund. The pamphlet is obtainable at the Board's offices. An advisory committee, including representatives nominated by the National Federation of Building Trades' Employers, is being set up to consider cases which do not automatically qualify under the arrangements.

Generally only land held by a builder on 7 January 1947, and which he continues to hold on 1 July 1948, can be considered. Land acquired from a builder at existing use value by a public authority between 6 August 1947 and 1 July 1948 will normally be eligible. Builders, who, in addition to holding land as mentioned above, were themselves building on their own land throughout the period 1934-8 or for a period of at least two years between January 1937 and September 1939, will automatically qualify. Those with a pre-war record of less than two years or with no pre-war record at all will receive consideration according to the merits of their case. The builder will be allowed special treatment on a specified portion or 'ration' of the land he now holds. This ration will be his 'near ripe' land and he will receive a full payment on it for loss of development value out of the £300 million fund. The rest of his land, if any, will be eligible for ordinary treatment. The ration will be equal to the number of acres of his own land which he developed in the five years 1934-38. Those who were contract builders during the pre-war period (that is, did not build on their own land) may receive consideration. In addition the builder may, when he develops land within his 'near ripe' ration during the five years before payments are made from the £300 million fund, set off the development charge against the payment that will be due to him.

STATUTORY INSTRUMENTS. Town and Country Planning. The following are now obtainable at H.M. Stationery Office:
The Town and Country Planning (Control of Advertisements) Regulations, 1948. (S.I. 1948, No. 1613.) Price 8*d*. net.
The Town and Country Planning (Modification of Mines Act) Regulations, 1948. (S.I. 1948. No. 1522.) Price 1*d*. net.
The Town and Country Planning (Minerals) Regulations, 1948. (S.I. 1948, No. 1521.) Price 2*d*. net.
The Town and Country Planning Minerals Direction No. 1, 1948. (S.I. 1948. No. 1437.) Price 1*d*. net.
The Town and Country Planning (Local Authorities' Land: Exceptions to Section 82) Regulations, 1948. (S.I. 1948, No. 1461.) Price 1*d*. net.
The Town and Country Planning Delegation (London) Regulations, 1948. (S.I. 1948, No. 1459.) Price 1*d*. net.
The Town and Country Planning (City of London) Direction, 1948. (S.I. 1948, No. 1460.) Price 1*d*. net.

An explanatory memorandum on the Advertisement Regulations and a Circular to local authorities on the administration of them will be issued by the Ministry of Town and Country Planning as soon as possible.

An explanatory pamphlet (P.R.3) is being issued by the Ministry relating to certificates in respect of land ripe for development which the Minister may issue under section 80 of the 1947 Act. Local authorities will issue these pamphlets to the public as soon as they are available.

'Existing Use' Value. THE ESTATES GAZETTE for 17 July 1948 reports a sale by auction of land which was held by the Hove Corporation under the Cultivation Lands Order, 1939, for use as allotments (no rent being paid). The land was expressly offered for sale at its 'existing use' value, the right to receive the compensation for loss of development value being reserved to the vendor. The land consisted of two acres of building land with considerable frontages to main roads, and was sold for £1,275.

Form D.1 (Minerals). The Central Land Board announce that the special form of application for the determination of development charge in respect of the winning and working of minerals is now available. The Form D.1 (Minerals) can be obtained at the offices of all local authorities, the London County Council, and the offices of the Board.

Memorandum on the Town and Country Planning Act. Part 2 of the Explanatory Memorandum on the 1947 Act prepared by the Ministry of Town and Country Planning can now be obtained at H.M. Stationery Office, price 2*s*. net.

Industrial Buildings. The Town and Country Planning (Erection of Industrial Buildings) Regulations made by the Board of Trade under section 14 (4) of the 1947 Act are now obtainable at H.M. Stationery Office, price 1*d*. They prescribe that *all* classes of industrial buildings must be certified by the Board that the development can be carried out consistently with the proper distribution of industry if the building will have an aggregate floor space exceeding 5,000 square feet. It is necessary to obtain such a certificate before an application can be made to the local planning authority. Form I.D.C./1 is the application form for certificates which must be sent to the Regional Controller of the Board of Trade. Sections 6, 9 and 10 of the Distribution of Industry Act, 1945, have been repealed by the 1947 Act, and the procedure laid down by these Regulations must now be followed.

Mr. D. Walker-Smith, M.P., moved to annul these Regulations in the House of Commons on 28 July on the ground that the Board have not recognized any exemption from the necessity to obtain a certificate either by way of area or particular

classes of building. This power was given by section 14 (4) (*b*) of the Act, but the Board have not taken the sort of action which appears to have been contemplated by the words of the Statute. The Parliamentary Secretary to the Board of Trade replied that the Board felt that at this particular moment it cannot, in view of lack of experience in operating this particular instrument, give exemptions either in respect of particular areas or in respect of particular industries. But he gave the assurance that if it were found possible to exempt particular industries or particular areas, there would be no hesitation in doing so. For the moment, however, the Board felt that the course taken was the proper one. On this assurance Mr. Walker-Smith withdrew his motion.

FEES IN CLAIMS FOR DEPRECIATION OF LAND VALUE. The Royal Institution of Chartered Surveyors have published a scale of fees as between surveyor and client for professional services in claims for depreciation of land values under the 1947 Act. These fees are payable by the client, but he will be credited with any contribution towards such fees which may be recoverable from the Central Land Board. If the contribution by the Board should be higher than the fee on the scale the fee payable by the client is to be the contribution.

The scale of contributions payable by the Central Land Board will be found in Explanatory Pamphlet S.1.A., Appendix 1. The contribution will be payable *only* if the professional adviser answers questions 27 and 28 on the Claim Form, and payments will be aggregated where repetitive work is involved and in other proper cases. No payment will be made where in the opinion of the Board the adviser is not experienced in the valuation of land or does not carry out the full services, or if the amount of the development value does not exceed (on average) £20 or less per acre or one-tenth or less of the restricted value.

OWNERS OF SINGLE PLOTS OF LAND. Central Land Board. Private owners who bought a plot of land at 'building site' price before 7 January 1947 will be entitled, if they start to build a house on the plot for their own occupation on or before 7 January 1952, to a payment from the £300 million fund equal to the development value in the land for the erection of a house. This payment will not be available until after the Scheme for payments has been made and approved by Parliament, but the owner will be able to set off the development charge against it. The claim for payment must be put in before 31 March 1949. This arrangement by the Central Land Board should mean, in the absence of any marked change in market values, that the payment from the fund will broadly cover the development charge.

PRICE BUILD-UP TODAY. THE BUILDER has published a reprint of articles which appeared in that journal dealing with labour constants which are used in the build-up of prices by an estimator, and which become the basis for an incentive scheme when a tender is accepted. The publication is priced 5*s.* net, and is dated March 1948. It is obtainable from The Builder Ltd., The Builder House, Catherine Street, London, W.C.2.

Correspondence

THE U.N. BUILDING

Sir,—Few people will not sympathize with Mr. J. J. P. Oud in his sensitive reaction to the criticism of his work recently published in the ARCHITECTURAL RECORD. It would, however, seem to be the fate of all architects who produce work of a distinctly personal kind that the waves of fashion in architectural thought are certain at one time or another to run counter to their own viewpoint. This, nevertheless, is a chance all designers must take as long as freedom of criticism is to be preserved.

While in no way wishing to make this letter a *cri-du-cœur* for misunderstood designers, I would like to stress the value of the catholic approach to contemporary problems; for only in this way will the seeds of a new architecture of humanism be sown. The need for eclecticism in all aspects of design was never so vital as it is today.

The U.N. project in Manhattan is a good case in point. Its mass architect-engineer approach, so unpopular with Mr. Oud, has at least succeeded in removing the traditional spectre of monumentality as an architectural expression of Peace, and with commendable dexterity the designers have managed to produce a scheme which steers the course, which has so far proved illusive to many modern architects, that of a compromise between utility and visual formalism. Faults the scheme undoubtedly has, if Mr. Hugh Ferris's perspective drawings, among other things, are intended to be taken seriously. The human figure, still as efficient a standard of measure in design as any, has apparently been taken for a short ride and bundled unceremoniously in East River, and the comparative scales of the various components of the scheme appear to be somewhat adrift from each other.

But to all who know this particular stretch of riverside Manhattan, which shows the marks of mis-development at its worst, the clearing of the site and the general form and line of the buildings appear to be a particularly satisfactory solution to a problem so bristling with difficulties and pitfalls.

I am sure most architects in this country will righteously feel that Mr. Oud's defence of his own particular creed was at once a notable gesture of his faith and of an artist's sensitivity towards what he feels to be best in architecture, but he can assuredly find consolation in the fact that criticism of the kind which has been levelled at his work invariably follows in the wake of fame.—Yours faithfully,

EDWARD PASSMORE [*A*]

SMALL JOBS

Sir,—It was refreshing to note the emphasis which Mr. Richard Henniker, in his letter in the June JOURNAL, places on the business side of an architect's work. This is an aspect to which, in my opinion, the JOURNAL devotes too little space.

Mr. Henniker rightly stresses the value of small jobs in demonstrating the architect's ability to plan and organize building operations. No doubt his remarks have met with the approbation of many architects in private practice. If one accepts his thesis that *all* building work, however small, should have the personal attention of an architect, new problems arise in office organization, especially in the larger offices, where the alternative ways of dealing with a large and varied amount of work appear to be as follows:—

1. Separate sections to deal with (*a*) large jobs, (*b*) small jobs, and (*c*) maintenance work.

or 2. Separate groups to deal with *all* building work in a definite part of the work of the office, the sphere of operations of a group being defined, (*a*) either by reference to buildings of a certain type or function, or (*b*) on an area basis.

It would be of interest if the experience gained in various offices, in dealing with such organizational problems, could be collated and discussed by the appropriate Committee of the Royal Institute.—Yours faithfully,

HARRY JUDSON [*A*]

'NOT GUILTY'

Sir,—Answering a question at the R.I.B.A. on 22 June, Mr. Charles Woodward stated it is always open to an architect to plead 'not guilty' if charged following the breach of the conditions attached to a building licence.

Defence Regulation 56A, and Mr. Woodwards' own Practice Notes in the October 1947 JOURNAL make it clear that in most cases it is useless for him to do so; unless he can show that he was not the architect for the job his guilt automatically follows from the fact of the contravention.

The Regulation as worded is, of course, against common sense, repugnant to the spirit of English law, and detrimental to the interests of the profession. The questioner no doubt imagined that the injustices reported in the October JOURNAL would provoke the Institute to instant action.—Yours faithfully,

A. P. HODGSON [*A*]

A copy of Mr. Hodgson's letter was forwarded to Mr. Charles Woodward, who replies:—

My answer to this question on 22 June was in consequence of legal advice that it is open to an architect to plead 'not guilty' if charged under Defence Regulation 56A. He can urge in his defence that he had no

knowledge of particular work, that particular work was carried out against his instructions, that he was under no duty to know about or enquire about particular work, that he had reasonable grounds for believing that the cost of the work would not exceed the licensed amount or that the work was urgently necessary in circumstances of emergency which rendered it impracticable to obtain prior authorization. If an architect feels that he has an adequate defence then he would, no doubt, plead 'not guilty'.

'FIVE MINISTRIES LESS'

Sir,—In his address to the Annual Conference, reported in the June JOURNAL Professor Gordon Stephenson uses harsh words concerning the architect who would 'build this new town, if there were five Ministries less'. The words were extracted from my address at the opening of the Hemel Hempstead exhibition, at which the Minister of Planning was present. Sincere gratitude was then expressed for the help, advice, and tolerance of the Ministry of Town and Country Planning, and the Report itself acknowledges the pioneer work of the Stevenage Plan.

I do not therefore quite see why this Ministry should be one of the five. It is the Englishman's right to disagree, but I imagine we are all agreed in being justly proud of the work of Stephenson and his colleagues. To avoid further misapprehension, may I add how courteous and helpful also were the representatives of the several other Ministries with clients' rights in the new town. Indeed, on this score, I would vote for more, not less, Ministries.—Yours faithfully,

G. A. JELLICOE [*F*]

Editor's Note

Qui s'excuse . . . ! The remark quoted in the JOURNAL was not taken by us from Mr. Jellicoe's speech, but was said in the R.I.B.A. canteen by another new town architect—who possibly may have borrowed it from Mr. Jellicoe without acknowledgment. No one would deny the force of the original impetus and of the continuing drive put behind the new towns projects by the Ministry of Town and Country Planning, nor the immense advances in technical research on the subject of town planning made in the last few years by officers of the Ministry; certainly no new town architect would do so. Nevertheless, Mr. Jellicoe told us on the telephone that the following departments, in addition to the Ministry of Town and Country Planning had proprietary rights in every new town project: Ministry of Health, Ministry of Works, Ministry of Transport, Ministry of Supply, Board of Trade, Treasury, Ministry of Agriculture (and Fisheries), Ministry of Education. Two architects have said, perhaps lightheartedly, that they could do with five less—though that would still leave three!

If any serious thought arises from our casual filling of a spare half inch of JOURNAL space with a random remark, it is that the practice of architecture today is fast becoming a complex problem in administration.

Notes and Notices

NOTICES

R.I.B.A. Distinction in Town Planning

The R.I.B.A. Distinction in Town Planning may be conferred upon Fellows, Associates and Licentiates of the R.I.B.A.

It is the highest award in Town and Country Planning that the R.I.B.A. can bestow. It is primarily for members of the R.I.B.A. who have made some contribution in the field of large scale planning, especially in visual and three-dimensional planning which is so vital in the development schemes that will take place throughout the country.

Recommendations are submitted to the Council by a Standing Committee set up for the purpose. Personal applications by candidates will not be entertained. The name of the candidate must be submitted by three sponsors, themselves members of the R.I.B.A., who will be required to submit the following particulars on behalf of the candidates:—

(*a*) details of professional qualifications and experience;

(*b*) evidence of his work and achievements in the field of town and country planning, including three-dimensional planning, such evidence to consist of a list of the candidate's work together with references to professional journals in which the works have been illustrated, and such other evidence as may assist the Committee in making their recommendation to the Council.

Nominations should be made twice annually, on 1 March and 1 November, and should be addressed to the Secretary, R.I.B.A., 66, Portland Place, London, W.1.

BOARD OF ARCHITECTURAL EDUCATION

The R.I.B.A. Intermediate Examination, May 1948.

The R.I.B.A. Intermediate Examination was held in London, Manchester, Leeds, Newcastle, Edinburgh and Belfast from the 7 to 13 May 1948.

Of the 473 candidates examined, 211 passed and 262 were relegated. The successful candidates are as follows:

*Abbott, Albert
*Alderson, Richard
*Almond, G. C.
Arnold, D. W.
*Astorga, T. D. W.
Ayton, K. A.
Baldwin, J. E.
*Balston, R. W.
*Banks, A. E.
Basing, J. D. A.
*Bayliss, W. B.
*Beaman, Joseph
Beioley, Leonard
Birch, A. C.
*Birchett, D. A.
*Bolton, B. H.
Bottle, F. R.
Box, K. E.
Bracewell, A. G.
Bradley, A. S. E.
*Brewerton, R. L.
*Brown, G. A.
Brown, J. G.
*Brown, R. M.
Buck, H. D. R.
Burn Hill, A. S.
*Cairns, J. G. H. D.
*Cavanagh, N. D.
Chalmers, D. G. M.
Chandler, G. C.
*Clarke, D. H. P.
*Clarke, E. J. F.
*Clifford, W. M.
Cobbett, M. L.
Collins, G. J.
Corbett, V. L.
*Courtenay, R. R.
Coveney, B. G.
Cox, S. H.
*Cox, W. A. A.
Cross, T. A.
*Davis, E. R.
*Deaves, A. R.
Dempster, William
Denholm, P. C.
Devonport, F. D.
Dickinson, R. G.
*Duck, W. R.
Eaglen, D. A.
*Edwards, K. G.
Elliott, J. E.
*Ellis, K. H. N.
Ellis, L. J.
*Ellmers, J. W.
Emerson, J. B.
*England, P. G.
Evans, L. J.
Fairweather, L. S.
*Fiddies, C. E.
Fitzgerald, R. D.
Forbes-Nixon, J. D.
Fryman, J. G.
*Fullerton, Peter
Gallagher, J. M.
Gibbon, John
Gledhill, J. M.
Goddard, Denyse (Miss)
Goldsmith, G. B.
Gordon, Wallace
Grace, Valerie (Miss)
Greenacre, P. J. F.
*Gregory, R. W.
*Guyan, J. E.
Hammond, G. G. W.
*Harris, J. A. H.
Harrison, M. J. E.
Harvey, G. E.
*Hatch, Colin
*Hayward, J. S.
Head, A. E.
Head, R. L.
Henderson, E. M. H. (Miss)
Hennings, M. H.
Hewlett, T. J.
Hindle, Edgar
Hindson, Denis
*Hobbs, R. E.
Hodge, A. W.
Howland, John
*Hubberstey, Peter
Hudson, Gene (Miss)
*Hudson, R. M.
Jacobs, L. I.
Jamieson, D. L. E.
*Johnson, C. G. H.
Jones, D. W.
*Jones, G. G.
*Keen, Stanley
*Lamb, A. W.
Langdell, Geoffrey
Leighton, E. S.
Linford, O. F.
*Lithgow, David
Locke, P. E.
*Logan, L. D.
Lord, F. K.
Lowe, R. H. B.
*Lund, P. P.
McCall, I. K.
McCullough, G. H.
*McGurk, Thomas
McMenan, W. M. R.
*Mann, W. G.
Manwaring, R. E.
*Marchant, K. E.
Marsh, M. P. (Miss)
Marshall, Denis
*Mate, H. E.
May, W. J.
Melhuish, R. E.
Messom, E. L.
Miller, Frank
*Miller, P. F. N.
Mitton, J. D.
*†Moran, T. J.
*Morris, A. W.
Morrison, James
*Murray, A. C.
*Nelson, Richard
*Neve, E. E.
*Nicholas, Eric
*Nicholas, L. A.
*Nightingale, Norman
Noak, H. H.
Nussbaum, Bruno
O'Connor, D. J. L.
Outram, Jack
Partridge, G. J.
Patrick, Patricia (Miss)
*Pearce, D. W.
*Pemberton, Roy
Perry, V. J.
*Picken, W. O.
*Pike, A. T. H. P.
*†Poole, M. R. L.
*Porte, J. E.
Pounder, D. J. (Miss)
*Pratt, Robert
*Raggett, H. G.
Raimes, A. S.
*Ratcliffe, C. B.
Richman, I. J. (Miss)
Ringland, F. L.
Russell, P. S.
Sadler, R. A.
*Salmon, W. H. G.
Samuels, F. S.
*Savage, C. P.
Savage, W. J.
*Scrase, P. S.
Shadwell, K. G.
*Sharp, C. R.
Skinner, F. H.
Smart, D. J.
Smith, A. D.
*Smith, Derek
*Smith, Norman
Smith, R. S.
Snowden, J. H.
Spashett, E. T.
*Staley, S. M. (Miss)
Stanley, G. F.
Stanley, W. G.
*Stanton, B. J.
Stewart, I. S.
Stockley, R. H. J. (Miss)
Sursham, A. E. H.
*Tansley, Kenneth
Taper, Norah (Miss)
Taylor, A. S.
*Taylor, E. A. F.
Taylor, F. M.
*Taylor, Sidney
Terry, A. R.
*Thomas, G. J.
Thompson, C. D.
*Thompson, H. T.
*Tiedeman, J. R.
*Tomlinson, G. G.
*Trevett, G. A.
Tulitt, F. E.
Turner, V. M. (Miss)
Van Winsum, H. J.
Wahnon, H. M.

Walker, R. W.
*Walsh, R. B.
Warner, J. E.
Warren, A. P.
Webster, D. L.
West, H. P. H.
West-Jones, Alan
Whitcomb, H. F.
White, J. P. (Miss)
Whittaker, Eric
Whittemore, J. E.
Wilburn, D. E.
Wilding, R. W.
*Willems, Denis
Williams, E. J. J.
*Williams, K. S.
Young, L. M.

*Subject to approval of History Thesis or Theses.

†Subject to approval of remaining Testimonies of Study.

The following candidates have also completed their qualifications and have now passed the Intermediate Examination:

Hill, Thomas C.
Mills, Geoffrey W.
Purkis, John C.

R.I.B.A. Maintenance Scholarships in Architecture

The Royal Institute of British Architects announce that the following Maintenance Scholarships have been awarded for the year 1948-49: An R.I.B.A. Houston Maintenance Scholarship of £125 per annum to Mr. John B. Crowther, of Truro, Cornwall; an R.I.B.A. Houston Maintenance Scholarship of £125 per annum to Mr. Derek G. Potter, of London, N.W.8; an R.I.B.A. 4th and 5th Year Maintenance Scholarship of £60 per annum to Mr. Eric Watson, of Staindrop, Co. Durham; THE BUILDER Maintenance Scholarship of £68 per annum to Mr. Hugh R. Brady, of Bray, Co. Wicklow, Northern Ireland; an R.I.B.A. Howe Green 4th and 5th Year Maintenance Scholarship of £40 per annum to Mr. Michael E. Holt, of Penkhull, Stoke-on-Trent.

The Maintenance Scholarships previously awarded to the following candidates have been renewed: Mr. H. W. D. Burgess (Welsh School of Architecture, The Technical College, Cardiff—R.I.B.A. Houston Maintenance Scholarship of £125 per annum); Mr. J. M. Phillips (Bartlett School of Architecture, University of London—R.I.B.A. Houston Maintenance Scholarship of £125 per annum); Mr. D. N. Sutcliffe (Department of Architecture, The Northern Polytechnic, London—R.I.B.A. Houston Maintenance Scholarship of £125 per annum); Mr. A. B. King (Architectural Association School of Architecture—The Ralph Knott Memorial Maintenance Scholarship of £45 per annum).

Tite Prize Competition

In the United Kingdom 211 competitors took part in the Tite Prize en loge Competition.

The following competitors have been selected to proceed with the final drawings for the competition: William G. Apps (Department of Architecture, The Northern Polytechnic, London), J. Ian Ballantyne (Glasgow School of Architecture), John D. H. M. Clamp (Bartlett School of Architecture, University College, London), Robert Davison (Architectural Association, School of Architecture), Richard De 'Ath (Glasgow School of Architecture), Anthony E. Good (Department of Architecture, The Northern Polytechnic, London), Gerald V. Howes (Edinburgh College of Art), Victor Jackson (Liverpool School of Architecture, The University of Liverpool), William A. James (Aberdeen School of Architecture), Robert Gordon's Technical College), Ernest I. McConnach (Aberdeen School of Architecture, Robert Gordon's Technical College), Alastair C. Mackintosh (Edinburgh College of Art), Martin C. D. Richmond (Edinburgh College of Art), Alistair G. Smith (Oxford School of Architecture), Christopher J. Southin (Department of Architecture, The Northern Polytechnic, London), Harold Tiktin (Department of Architecture, Municipal College, Southend-on-Sea).

The Victory Scholarship Competition

In the United Kingdom 72 competitors took part in the Victory Scholarship en loge Competition.

The following competitors have been selected to proceed with the final drawings for the competition: Harry Bailey (Leeds School of Architecture), Miss Janet B. Gnosspelius (Liverpool School of Architecture, The University of Liverpool), Alexander J. Gordon (Welsh School of Architecture), Ronald P. Gray (Department of Architecture, The Northern Polytechnic, London), John L. Harding (Oxford School of Architecture), John M. Harries (Welsh School of Architecture), John Horrocks (Leeds School of Architecture), Miss Margaret Howell (Liverpool School of Architecture, The University of Liverpool), William F. Howitt (School of Architecture, Dundee College of Art), Alec W. Jackson (Liverpool School of Architecture, The University of Liverpool), William Knight (Liverpool School of Architecture, The University of Liverpool), Tom L. Marsden (Manchester University, School of Architecture), Forbes R. Mutch (Nottingham School of Architecture), Peter A. Newnham (Architectural Association School of Architecture), Walter W. M. Rhys-Davies (Welsh School of Architecture).

R.I.B.A. Final Examination

Mr. Brian G. Fender [Student], Westcliff-on-Sea, has been awarded Distinction in Thesis.

Welsh School of Architecture, B.Arch. Degree

Mr. J. M. Harries, of Port Talbot, has qualified at the Welsh School of Architecture for the degree of B.Arch. (Wales). He is the first student to secure this distinction, although the degree course of the University of Wales, which extends over a period of six years study, was established in 1938, but owing to the intervening war period, it is only now that the initial candidate is to be presented at the forthcoming graduation ceremony.

COMPETITIONS

International Town Planning Competition

Stockholm's Town Planning Board invites experts of all countries to take part in a competition in connection with a new main artery between the districts of Södermalm and Östermalm (Norra Djurgården) via Södra Djurgården.

Assessors:

The commissioner for the town planning department, Helge Berglund, chairman.
Professor Sir Patrick Abercrombie [*F*].
Hakon Ahlberg, architect.
Anders Ahlén, civil engineer.
David Anger, civil engineer.
Professor Anker Engelund.
The commissioner for the harbour department, Harald Göransson.
Hans von Heland, assistant city treasurer.
Sven Markelius, city planning director.
Ernst Sundström, civil engineer.
Gunnar Wetterling, city architect.

Premiums:

The jury have at their disposal the sum of 60,000 Swedish crowns. Of this, 48,000 crowns shall be awarded in prizes, and 12,000 crowns used for purchasing proposals. Four prizes shall be awarded. Unless a unanimous jury decide to the contrary, the first prize shall be 20,000 crowns.

The lowest prize shall not be less than 6,000 crowns, nor the lowest purchasing price less than 3,500 crowns. Winning entries, or proposals purchased, become the property of Stockholm City, without further compensation. Last day for submitting designs: 1 April 1949.

Conditions may be obtained from Tävlingsfunktionären, Stockholm stads stadsplanekontor, Stadshuset, Stockholm.

Deposit: 100 Swedish crowns.

COMPETITION RESULT

New Memorial Building at Great Russell Street, W.C.1, for the T.U.C.

1, Mr. David Du R. Aberdeen, B.A., A.M.T.P.I. [*F*]; 2, Messrs. E. D. Lyons and L. Israel [*AA*]; 3, Messrs. Sir John Brown, A. E. Henson and Partners [*FF*].

Highly commended: Mr. Charles Pike [*A*] (of Messrs. Slater, Moberly, Uren and Pike); Mr. D. Dex Harrison, Dip.Arch. (Leeds), A.M.T.P.I. [*A*], Mr. Norman Harrison and Mr. Ernest Seel, Dip.Arch. (Leeds) [*A*]; Mr. C. Lovett Gill [*F*]; Mr. Philip H. P. Bennett, M.A., and Mr. W. Bonham Galloway, B.A. [*A*]; Mr. John Grey, A.A.Dip., N.R.D. [*F*] and Mr. F. E. F. Atkinson [*L*]; Mr. Frank Gollins [*A*] and Mr. James Melvin, A.A.Dip. [*A*].

ALLIED SOCIETIES

Changes of Officers and Addresses

Wessex Society of Architects. President, Mr. William G. Newton, M.C., M.A., J.P. [*F*], 4 Raymond Buildings, Gray's Inn, London, W.C.1. *Wilts and Dorset Branch*. President, Maj. R. J. Potter [*A*], 21 The Close, Salisbury. *Devon and Cornwall Architectural Society*. President, Mr. C. Lloyd James [*L*], 6 Torland Road, Hartley, Plymouth.

South Eastern Society of Architects, Croydon Chapter. Chairman, Mr. C. S. Spackman [*L*], The Studio, 1 Edridge Road, Croydon, Surrey. Hon. Secretary, Mr. D. W. Joel [*L*], 33 High Street, Croydon, Surrey. *Kingston-upon-Thames Chapter*. Chairman, Mr. H. Norman Haines [*L*], 1 and 2 Gray's Inn Place, London, W.C.1. Hon. Secretary, Mr. D. Phillimore Taylor [*A*], 60 King Charles Road, Surbiton. *Guildford District Chapter*. Chairman, Mr. R. D. Scott [*F*], Lloyds Bank Chambers, High Street, Guildford. Hon. Secretary, Mr. I. F. Roberts [*F*], Folly Hill, Birtley Green, Bramley, Surrey. *Canterbury District Chapter*. Chairman, Mr. F. A. Perren [*F*], 54 Hawley Square, Margate, Kent. Hon. Secretary, Mr. R. M. V. Messenger [*A*], 148 High Street, Herne Bay, Kent. *East Africa Institute of Architects*. President, Mr. H. Thornley Dyer [*F*]. Hon. Secretary and Treasurer, Miss Helga M. Richards [*A*], P.O. Box 866, Nairobi, Kenya, E. Africa, c/o The Secretariat, Nairobi, Kenya Colony. *Essex, Cambridge and Hertfordshire Society of Architects*. President, Mr. R. C. Foster, M.B.E., M.C. [*F*], Midland Bank Chambers, Buckhurst Hill, Essex. Hon. Secretary, Mr. F. Evan Jones [*A*], 39 Redbridge Lane, Wanstead, London, E.11. *Chelmsford Chapter*. Hon. Secretary, Mr. S. E. Bragg [*A*], 11 St. Fabian's Drive, Chelmsford. *Hertfordshire Chapter*. Chairman, Mr. D. A. Wilkie [*F*], 13 Langley Way, Watford, Herts. Hon. Secretary, Mr. J. L. Caldwell [*A*], 83 High Street, Watford, Herts. *West Essex Chapter*. Chairman, Mr. R. O. Foster [*A*], Midland Bank Chambers, Queen's Road, Buckhurst Hill, Essex. Hon. Secretary, Mr. S. A. Clapp, 8 Queen Street, Cheapside, E.C.4.

Annual Report of the Sheffield, South Yorkshire and District Society of Architects and Surveyors

The membership of the Society is now 134 as compared with 142 last year. The Council regrets to record the death of Sir H. K. Stephenson, Bt., D.S.O., LL.D., J.P., elected

an honorary member of the Society in 1930, and who for many years had given his support on the University Council to the Department of Architecture and had shown by his foundation of the Sir H. K. Stephenson Fellowship in Architecture at Sheffield University his real interest in the art of architecture.

Four lectures have been given during the past session, the first on 18 November, when Mr. Hubert Bennett [*F*], Architect to the West Riding County Council, gave a lecture on 'School Planning and Design' dealing with the subject from the most modern standpoint. On 11 December Mr. J. M. M. Jenkinson read a very interesting paper on 'Recent Trends in American Hospital Design' based on his recent visit to America. In February 1948 Mr. L. Sylvester Sullivan gave a most interesting and humorous paper on his own personal experiences as an architect, entitled 'The Dark Cottage of Memory'. The last meeting of the Session was held on 12 March, when Mr. R. A. H. Livett, O.B.E. [*A*], read a paper on 'Housing'. Two interesting lectures to which members were invited were given by Mr. R. E. Megarry, Barrister-at-law, on the Town and Country Planning Act of 1947, under the auspices of the Sheffield and District Incorporated Law Society.

A number of books on varied subjects have been presented to the Society during the year by the R.I.B.A. and have been incorporated in the Society's Library at the University.

The congratulations of the Council are due to Mr. Stephen Welsh [*F*] on his appointment as Professor and the consequent establishment of a chair in Architecture at Sheffield University.

Matters dealt with at Council meetings included questions relating to post-war private practice and its difficulties, the formation of an emergency committee of practising architects independent of the R.I.B.A., plumbers' profits and the revival of the social side of the Society. During the session a successful buffet dance was organized and resulted in a small profit. The attendance at the general meetings has been good, averaging 58. Five General meetings and five Council meetings have been held during the session. The numbers of students registered for Session 1947-48 totalled 159. A further expansion of the department rendered necessary by the great number of applications for admission as well as the number of former students returning to their studies after National Service has been sanctioned. For next session part of the school premises of St. John's, Crookes Valley Road, is being prepared for the reception of the first year students of the full time courses and a few part-time students. It is expected that all former students, whose courses of study have been interrupted by National Service, will be released in time to resume their studies in October next. The Visiting Board of the R.I.B.A. inspected the premises and the work of the department on 21 May. During the visit the University invited the Board to meet several of its principal officers and Mr. H. B. S. Gibbs.

Mr. C. S. Sandford, was elected President for the ensuing year.

GENERAL NOTES

Rome Scholarship in Architecture, 1948

The Faculty of Architecture of the British School at Rome regret to announce they are unable to award the Rome Scholarship in Architecture for 1948.

The Faculty have stated that this year's subject, 'A Concert Hall', is a problem which will have to be faced during the coming years by many architects in many cities. The requirements of the programme were simple: the solution should result in a simple and monumental building. The programme did not ask for the technicalities of a great concert hall to be worked out in detail: it did ask clearly for a general design which could be suitably elaborated in technical detail without undue alteration in the normal course of practice. The essentials of such a building are that it should be suitable to the site, that the plan should dispose the main elements in an orderly and spacious manner and should keep the subordinate in due subordination, and that the massing and elevational treatment arising out of that plan should naturally and simply combine to produce a unified architectural composition.

No design submitted this year sufficiently fulfilled these elementary requirements; consequently the Faculty found themselves with great regret unable to make any award of the Rome Scholarship in Architecture.

Three designs, namely, those submitted under the pseudonyms 'Chek', 'Cad' and 'Handel', while also subject to the above criticism, have been disqualified for contravention of Condition 2—'The main lines, general composition and character of the design which must be shown in the sketch must be adhered to in the finished design. *Failure to comply with this condition will disqualify the competitor.*'

The Rome Scholarship in Architecture is now provided for by an annual grant made to the British School at Rome by the Council of the R.I.B.A., and is normally tenable for two years, but may be prolonged in exceptional cases for a third year.

R.I.B.A. Golfing Society v. Royal Institute of Chartered Surveyors Golfing Society—At New Zealand, West Byfleet, Surrey, 21 July 1948

Morning Singles—Note R.I.C.S. players given first

G. Geen beat J. Stanley Beard, D. H. Fish beat Sir Giles Gilbert Scott, G. D. Walford lost to E. H. Firmin, W. H. Hutton beat Leslie W. Twigg, G. B. Lane beat P. Hickey, S. W. Charity beat W. R. F. Fisher, W. B. Denison lost to H. St. J. Harrison, E. W. Preston lost to John Grey, M. H. Thackray lost to H. L. Bloomfield, E. Norman Harris beat A. N. Other. Totals: R.I.C.S. 6, R.I.B.A. 4.

Afternoon Foursomes

Geen and Hutton lost to Firmin and Twigg, Fish and Preston lost to Beard and Scott, Walford and Lane beat Hickey and Fisher, Charity and Thackray beat Harrison and Grey, Denison and Harris beat Bloomfield and A. N. Other. Totals: R.I.C.S. 3, R.I.B.A. 2.

Result: R.I.C.S. 9 matches, R.I.B.A. 6 matches.

Reilly Scholarship and Medal Fund

The Committee of the "Reilly Scholarship and Medal Fund" now wish to close the Fund, so that the Medal may be prepared and the Scholarship initiated.

It will therefore be appreciated if old students and friends of the late Professor Sir Charles Reilly who have not yet subscribed and would like to do so, will send their contributions as soon as possible to the Hon. Secretary, A. G. S. Fidler, 19 Ailsa Road, St. Margarets, Twickenham.

Architectural Association School of Architecture New Research Scholarships in Architecture Available to Students

Imperial Chemical Industries Travelling Scholarship. The Imperial Chemical Industries Travelling Scholarship for 1948 has been divided between Mr. P. A. R. Dickinson (£175), and Mr. Denis M. Jones (£75). This scholarship is for study and research in connection with the decoration of buildings.

The Building Centre Scholarship. The Building Centre Scholarship for 1948, value £100, has been awarded to Mr. D. Brown Bullivant. This scholarship is for research into the properties and architectural uses of building materials in Great Britain.

A second Research Scholarship (value £25) offered by the Building Centre, has been awarded to Mr. Ian Colquhoun for the study of brickwork in Holland.

The Late Mr. John G. Dower's Book Collection

A collection of books belonging to the late John G. Dower [*A*] on Town and Country Planning and kindred subjects, and sets of lantern slides, have been presented to the School of Town and Country Planning, King's College, Newcastle-upon-Tyne. The books are the gift of Mrs. Dower in memory of her husband.

It is perhaps appropriate that this collection should be housed in the Department of Town and Country Planning, which is conducting the only Degree Course in the subject in the Commonwealth, and in which special attention has been given to the problems of the countryside. Mr. John Dower's report on National Parks, known as the 'Dower Report', marked a historic step forward in country planning, and his own books will prove a most valuable addition to the library.

The Royal Institute of the Architects of Ireland. 1948 Examinations

At a recent meeting of the Board of Architectural Education the results of the 1948 Examinations were approved. There were 20 candidates for the Intermediate Examination, 11 candidates for the Final, and 2 Special Finalists. The following candidates were successful: *Intermediate Examinations:* Mr. Harold P. Higginbotham, Miss Georgina Joyce, Messrs. F. M. McEvoy, A. J. Mills, M. P. Reynolds. *Final Examination:* Miss Muriel Brown, Messrs. L. Brady, F. A. Jones, D. M. Kavanagh, G. A. McNamara (Special Final).

School of Planning and Research for Regional Development—Diploma Course in Town and Country Planning

The first session of the One-Year Diploma Course in Town and Country Planning ended on 10 July 1948. The following candidates passed the examinations:—*Distinction*—F. Forrest [*A*] (Yorks); J. M. Hirsh [*A*] (London); Mary C. Miller [*A*] (London); F. P. Tindall, M.A. (Surrey); J. Whittle [*A*] (Essex). *Pass*—J. L. Barber, A.M.Inst.Mun.E. (Lancaster); D. C. Clayton [*A*] (Sussex); Esmee M. S. Cousin [*A*] (Surrey); S. V. Desai (Bombay); B. P. Field [*A*] (Middlesex); N. K. Gandhi (Bombay); A. D. Geach [*A*] (London); B. O. Jensen (Denmark); J. R. Horton (Herts); Ann M. MacEwen [*A*] (London); H. B. Marsden (North Wales); K. Munnich, B.Arch. (Middlesex); R. J. Nichol [*A*] (Herts); D. L. Sabey, B.Sc. (Northampton); M. J. Shelly, B.Sc. (Leicester); J. C. P. West [*A*] (Herts); P. A. Westwood [*A*] (South Africa); Joyce V. Wilson [*A*] (London.

Lead Industries Development Council Lectures, Winter 1948-49

Arrangements for lectures during the coming winter are now being made, and applications for the Council's lecturers should be addressed to The Secretary, Lead Industries Development Council, Eagle House, Jermyn Street, London, S.W.1. These lectures are available to technical schools and trade organizations, and it will be helpful if applicants will give an indication as to the type of lecture required, e.g. plumbing, the general uses of lead in building, etc., and suggesting two or three suitable dates.

Notes from the Minutes of the Council

MEETING HELD 7 JULY 1948

Appointments

(A) B.S.I. Committees: B/20: Use of Structural Steel in Buildings: Mr. L. W. Elliott [*A*] in place of Mr. P. J. Waldram [*L*].

B 644: Part I, Wood Windows and Casement Doors (Revision): Mr. David Booth [*F*].

TIB 6 5: Performance of Flush and Panelled Doors: Mr. D. L. Medd [*A*].

MEE 104: Identification of Cables, Pipe-lines, Conduits, etc.: Mr. E. D. Mills [*F*].

Conference on Safety Colour Code: Mr. Victor Smith [*A*].

Farm and Horticultural Buildings Industrial Standards Committee: Mr. Guy Wood North [*F*].

(B) Regional Advisory Council for the Organization of Further Education in the East Midlands: R.I.B.A. Representative on Advisory Panel for Art and Design: Mr. A. E. Eberlin [*F*].

(C) National Housing and Town Planning Council Technical Committee: R.I.B.A. Honorary Adviser: Mr. Edward Armstrong [*F*].

(D) General Council for the National Registration of Plumbers: R.I.B.A. Representative at Annual Meeting in Sheffield: Mr. H. B. S. Gibbs [*F*].

(E) R.I.B.A. Architecture Bronze Medal: New South Wales Chapter of the Royal Australian Institute of Architects: R.I.B.A. Representative on Jury to consider Award: Mr. William R. Laurie [*F*], President of the Royal Australian Institute of Architects.

The Honorary Fellowship: The Secretary reported that the following had accepted the Council's nomination for election to the Honorary Fellowship: The Earl of Ilchester, O.B.E., F.S.A., the Right Hon. Viscount Samuel, G.C.B., G.B.E.

The Honorary Associateship: The Secretary reported that Mr. Sacheverell Sitwell had accepted the Council's nomination for election to the Honorary Associateship.

New Members of Council and Retired Members of Council: The President welcomed new members of the Council, and on his proposition a vote of sincere appreciation of the services of those members who had retired since the last meeting was passed.

Appointment of Committees: The Council appointed committees for the session 1948-49.

Princeton University Bicentenary: The Council received a bronze medal presented to the Institute by the University of Princeton in commemoration of the bicentenary celebrations which took place on 16 June 1947.

The Indian Institute of Architects: Alterations to Bye-laws: The Council formally approved alterations to the bye-laws of the Indian Institute of Architects to permit of an increase of membership subscriptions.

Conference on Georgian Buildings: Bath: The Council received a report on the conference on Georgian buildings held at Bath, 4-6 May 1948, from Mr. G. D. Gordon Hake [*F*], the R.I.B.A representative. The Council's thanks for his services were conveyed to Mr. Hake.

Royal Sanitary Institute Health Congress 1948: The Council received a report on the health congress held at Harrogate, 24-26 May 1948, from Mr. Norval R. Paxton, M.C. [*F*], the R.I.B.A. delegate. The Council's thanks for his services were conveyed to Mr. Paxton.

Ministry of Works Codes of Practice Committee: The Council considered a report submitted by the R.I.B.A. representative on the sub-committee convened to consider the future organization of the Codes of Practice Committee. It was agreed that the end of 1949 should be set as a time limit for the completion of the work of the R.I.B.A. Codes Committees, and that to this end an examination should be made with a view to re-arranging some Codes as part of a main Code and to deferring indefinitely the preparation of such Codes as might seem redundant or unnecessary.

Membership: The following members were elected: as Fellows, 2; as Associates, 22; as Licentiates, 9. *Students:* 94 Probationers were elected as Students.

Applications for Election: Applications for election were approved as follows: *Election 19 October* 1948: as Honorary Associate, 1; as Honorary Corresponding Member, 1; as Fellows, 14; as Associates, 54. *Election 14 December* 1948 (*Overseas Candidates):* as Fellows, 2; as associates, 5.

Applications for Reinstatement: The following applications were approved: as Associates: Richard Robert Crosby Halahan, William Norman Worrall; as Licentiates: Edgar Dugdale Dennis, Montague Charles Glover.

Resignation: The following resignation was accepted with regret: Reginald Wentworth Alfred James Cosway [*A*].

Application for Transfer to Retired Members' Class under Bye-law 15: The following application was approved: as Retired Associate: Shiawax Cowasjee Pastakia.

Obituary: The Secretary reported with regret the death of the following members: Edward Goyen Hart [*A*], Charles Sampson Joseph [*L*], John Elfed Rees [*L*].

Obituaries

William Charles Inman [*L*], senior partner in the firm of William C. Inman and Partners, of New Square, Lincoln's Inn, was born in 1889, and died on 29 April last. He specialized in quantity surveying, and the major contracts in which he was professionally concerned included the civil airports at Birmingham, Manchester, Bristol, Wolverhampton, Perth, and the Channel Islands, as well as Royal Air Force stations at Boulmer, Melbourne, Market Harboro', and Desborough. He was also surveyor to housing schemes at Loughborough Park, Brixton, in King's Road, Chelsea, Lewisham, Portsmouth Cathedral, and the Constantine College and Queen Margaret School, Scarborough.

Charles Sampson Joseph [*L*] died on 15 June 1948 at the age of 76. He was senior partner in the firm of Messrs. Joseph, 10 Lowndes Square, S.W.1, and his principal architectural works were the Queen's Hotel, Birmingham, for the London & North Western Railway Company and Shell Mex House. There were also housing schemes for the L.C.C. and Westminster City Council, as well as for Hackney, Chelsea and St. Pancras boroughs. He designed some factories and warehouses in the City and provinces.

Frank Rice White [*L*] died recently at Medstead, Hants, at the age of 72. He was trained in the office of the late J. Gibson of Basingstoke, and after serving many assistantships in offices in Hampshire became Clerk of Works to the Norfolk County Council, later taking up appointments with the Leicester, Padiham, Mitcham, Dover, Newmarket, Wimbledon and Norwich municipalities.

His career was closely connected with the planning of road improvements, maintenance of bridgework, drainage, the erection of police stations, pavilions, swimming baths and other civic offices, the laying out of pleasure gardens and corporation parks, as well as domestic architecture. Mr. Rice was an Associate of the Royal Sanitary Institute.

Thomas Retford Somerford [*F*] died at Southfields, S.W., on 25 June 1948, aged 67. He practised in association with Messrs. E. A. Stone and Partners. Mr. Somerford had been associated with Mr. E. A. Stone for 35 years, during which time he was engaged in work on the following buildings: Streatham Astoria, Brixton Astoria, block of offices and flats Bond Street House, Ealing Sports Pavilion for Barclay's Bank, and a sports pavilion for the civil service and several other government buildings in London and suburbs. Mr. Somerford was also associated with Mr. Bertie Crewe [*F*] in the design of the Piccadilly Theatre.

Mr. Somerford's early architectural assignments were the building of Lipton's first shops in the metropolitan area.

Richard Fielding Farrar [*Ret. A*]. Mr. J. H. Farrar, the deceased's son, has sent the following appreciation: 'By the death in Leeds on 16 June of Richard Fielding Farrar in his 88th year has passed one of the fast diminishing band of veterans of the battle of the styles. Born in Brighouse, Yorkshire, in 1860, he was articled to the Leeming brothers in Halifax in 1876 and shared in their success in the open, two-stage competition for the combined Admiralty and War Offices, which resulted in a victory for the Palladians and the death knell of Gothic architecture for public buildings in England.

In an address Ewan Christian commented at the time on the phenomenal triumph over the combined architectural talent of the country of two men and a youth working together in a remote provincial town; that youth was Fielding Farrar. The architectural controversy over the design was followed by official divergence and the scheme was abandoned, Admiralty and War Office each going their own ways.

For 27 years Fielding Farrar was to be closely associated in London with the Leemings in their further successes, including Lisbon General Post Office, the result of an international competition, and Edinburgh municipal buildings (neither of which projects were carried out), Leeds, Halifax and Oldham market halls and in the designing and carrying out of Kinloch Castle, a pseudo-Scottish baronial mansion built on the Island of Rhum off the Isle of Skye for the millionaire, Sir George Bullough. On the completion of Leeds markets in 1904 Fielding Farrar commenced practice in Leeds, designing many schools and police stations in the West Riding, including Divisional Headquarters at Wakefield and Selby in collaboration with the County Architect, J. Vickers Edwards, and was premiated in the first, abortive, competition for Manchester Library and Art Gallery.

During the war of 1914-18 he acted as architectural adviser to a large high explosive concern at Hipperholme and Lightcliffe, near Halifax, and did not return to active practice.

For many years he served on the Council of the Leeds and Yorkshire Architectural Society (now the West Yorkshire Society of Architects) as Treasurer, and will be remembered by many of its older members for his never failing interest in the Society's welfare, his intolerance of humbug of any kind, and for his kindly and genial disposition'.

John Elfed Rees [*L*], County Architect to the Anglesey County Council, died on 30 June last, aged 54. He was educated at Llandovery College and trained at the Swansea Technical College and School of Art.

During his career he held official appointments under the Glamorgan County Council, Breconshire County Council (Deputy County Architect), and under the Denbighshire County Council (Deputy County Architect), serving from 1939 to 1948 as County Architect of Anglesey County Council.

George Alfred Humphreys [*F*], J.P., LL.D., Chief Agent to Lord Mostyn's Estates, Llandudno, North Wales, was 83 at the time of his death on 8 May 1948. He commenced practice in 1895 after serving articles in the office of his uncle, A. Foulkes, and in Liverpool and Staffordshire. The Grand Theatre, General Post Office, Colonnade Shelter, Loreto College and Chapel, John Bright School, and the Calvanistic Methodist Chapel, all in Llandudno, as well as many commercial and domestic buildings in that town, were designed by Dr. Humphreys, who was a Justice of the Peace for Llandudno. Under his administration the Town Plan of Llandudno was developed and revised. The development plan of Degannwy was prepared and executed under his supervision.

The Honorary degree of Doctor of Law of the University of Wales was bestowed in September 1946. Dr. Humphreys was founder President of the North Wales Architectural Society.

Mr. Robert Parker [*A*], F.R.I.C.S., succeeds to the practice of Chief Agent to the Mostyn Estate Office.

Membership Lists

ELECTION: 7 JULY 1948

The following candidates for membership were elected on 7 July 1948:

AS FELLOWS (2)

Harrison: Geoffrey Stanley, A.A.Dip. [*A* 1929].
Tanner: Edgar Allan Davey [*A* 1920], Coventry.

AS ASSOCIATES (22)

Aitken: Margaret Helen (Miss), A.A.Dip.
Armstrong: Anthony Brown.
Bale: Howard Frank Stanley, Banstead.
Clark: Charles Graham, Letchworth.
Foster: Kenneth Eric, Southsea.
Hall: Frederick Edward, Preston.
Harrison: Norman.
Hitchman: Michael Hans.
Koren: Rolf, Edinburgh.
Lucas: Wilfrid Goold, M.C.
Mullins: William Frederick.
Murray: James Douglas, Dip.Arch. (Durham), South Shields.
Nightingale: Carol Mary (Miss), Crawley.
Nightingale: John Alan, Oxford.
Potter: Ronald Hugh.
Rees: Winston Graham, Beverley.
Slipper: Arthur William, Coventry.
Stobbs: Edward, Wallsend.
Tardrew: Hugh Martin, Abinger Common.
Thomas: Jane Jardine (Mrs.), B.Arch., Birkenhead.
Vaughan: Francis Harry, Bromley, Kent.
Whitty: John Anthony Noel, Uckfield.

AS LICENTIATES (9)

Clark: Lawrence Dent, Sheffield.
Cox: William David Winston, Manchester.
Garner: Francis Henry, Esher.
Heslop: Clarence Leister, West Hartlepool.
Kenna: John Patrick.
Muxlow: Edward Richard, Southwick.
Shepherd: John Adamson, Manchester.
Smith: Frank Herbert, Leicester.
Wright: Frederick Roland, Leicester.

ELECTION: 19 OCTOBER 1948

An election of candidates for membership will take place on 19 October 1948. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 11 September 1948.

The names following the applicant's address are those of his proposers.

AS HON. ASSOCIATE (1)

Dwelly: The Very Rev. Frederick William, M.A., D.D., The Dean of Liverpool, The Cathedral, Liverpool. Proposed by the Council.

AS HON. CORRESPONDING MEMBER (1)

Orr: Douglas William, President of the American Institute of Architects. 96 Grove Street, New Haven 11, Connecticut; Stony Creek, Connecticut. Proposed by the Council.

AS FELLOWS (14)

Bullen: Alfred Gabriel [*A* 1935], Hope Chambers, Leather Lane, Dale Street, Liverpool 2; 51 South Road, Grassendale Park, Liverpool 19. Herbert Thearle, H. A. Dod and Rupert Medcalf.

Bunney: Michael John Hewetson, M.A.(Oxon), A.A.Dip.(Hons.) [*A* 1935], 18 Mount Pleasant, Norwich. Herbert Tayler, F. H. Swindells and D. J. Green.

Holford: Prof. William Graham, M.A., M.T.P.I. [*A* 1932], 1 Bank Buildings, Princes Street, E.C.2; 80 Bedford Street, Liverpool 7; 13 Little Chester Street, S.W.1. Prof. L. B. Budden, Dr. Charles Holden and F. R. S. Yorke.

Mayorcas: Elie [*A* 1933], 15 Robert Adam Street, Portman Square, W.1; 47 Ennismore Gardens, Knightsbridge, S.W.7. Robert Atkinson, Howard Robertson and V. O. Rees.

Morgan: Richard George, M.C., F.R.I.C.S., Dip.T.P. [*A* 1928], Town Hall, Salford 3; The Cottage, Old Hall Lane, Worsley, near Manchester. H. H. Smith, H. T. Seward and W. C. Young.

Needham: John, Dip.Arch. (Leeds), R.I.B.A. Alfred Bossom Silver Medallist 1937, R.I.B.A. Alfred Bossom Gold Medallist 1938, Soane Medallist 1938 [*A* 1931] School of Architecture, Dundee College of Art, 315 Kingsway, Dundee. Joseph Addison, C. G. Soutar and J. D. Mills.

Nightingale: Paul Forster [*A* 1939], 27 John Adam Street, W.C.2; 1 De Burgh House, Avenue Road, Banstead. Prof. H. O. Corfiato, D. Nightingale and E. S. Ambrose.

Stainsby: George Pawson [*A* 1919], 57 High Street, Stockton-on-Tees; 'Danes Lea', Oxbridge Avenue, Stockton-on-Tees. Arthur Harrison, F. Willey and S. W. Milburn.

Tait: Gordon Thomas [*A* 1939], 10 Bedford Square, W.C.1. Basil Spence, T. S. Tait and A. G. MacDonald.

Taylor: Lt.-Col. John Percival, M.B.E. [*A* 1937], 120 Alfred Gelder Street, Hull; 35 Strathmore Avenue, Hull. G. D. Harbron, F. J. Horth and Llewellyn Kitchen.

and the following Licentiates who have passed the qualifying examination:

Clunie: William Lambie, City Architect's Dept., Town Hall, Sheffield; 30 Marsh Lane, Crosspool, Sheffield 10. Prof. Stephen Welsh, W. G. Davies and H. B. S. Gibbs.

Green: Norman, 9 Aldgate High Street, E.C.3; 2 Leasway, Westcliff-on-Sea, Essex. Niel Martin-Kaye, A. S. Belcham and J. M. Scott.

Pettengell: Edward Eric, Housing and Public Buildings Dept., Town Hall, Fulham, S.W.6; 26 Muschamp Road, S.E.15. E. G. W. Souster, V. J. Esch and Paul Badcock.

and the following Licentiate who is qualified under Section IV, Clause 4 (*c*) (ii), of the Supplemental Charter of 1925:

Chippindale: Benjamin, Dale Chambers, Dale Street, Kirkgate, Bradford; 'Stourton Lea', Skipton Road, Ilkley. N. R. Paxton, G. H. Foggitt and J. E. Stocks.

AS ASSOCIATES (54)

The name of a school, or schools, after a candidate's name indicates the passing of a recognized course.

Balfour-Paul: Lyon (Edin. Coll. of Art: Sch. of Arch.), Cakemuir, Tynehead, Midlothian. J. R. McKay, Leslie Grahame-Thomson, T. F. Maclennan.

Bennett: Philip Hugh Penberthy, M.A. (Final) 7 Park Village West, N.W.1. Sir Thomas Bennett, M. L. Winslade and Victor Heal.

Brashier: Michael Hugh (The Poly., Regent Street, London: Sch. of Arch.), 56 Gunnersbury Avenue, Ealing, W.5. E. C. Scherrer, J. K. Hicks and J. S. Walkden.

Brewster: Kenneth Arthur (Final), 90 Plumstead Road East, Norwich. E. W. B. Scott, T. G. Scott and F. Chippindale.

Brown: Dennis Herbert (Final), 9 Lonsdale Close, Orchard Drive, Edgware. L. A. Cullifford, L. A. Chackett and J. K. Hicks.

Cooper: Audrey Christine (Miss) (The Poly., Regent Street, London: Sch. of Arch.), 2 Montbelle Road, New Eltham, S.E.9. J. S. Walkden, A. S. Roberts and C. J. Burnett.

Dale: George Leslie (Arch. Assoc. (London): Sch. of Arch.), 8 Granville Road, Epping, Essex. R. F. Jordan, A. R. F. Anderson and Harold Cherry.

Eves: Kathleen Mary Heath (Miss) (Arch. Assoc. (London): Sch. of Arch.), 4 Hampstead Hill Gardens, N.W.3. R. F. Jordan, Robert Atkinson and A. F. B. Anderson.

Farebrother: Arthur Francis, B.A., Hons. Arch. (Victoria Univ., Manchester: Sch. of Arch.), 'Rostrevor', Hale Road, Ringway, Cheshire. Prof. R. A. Cordingley, F. L. Halliday and J. P. Nunn.

Fowler: Ronald Keith (The Poly., Regent Street, London: Sch. of Arch.), 'Danbury', Eastbourne Road, Lower Willingdon, nr. Eastbourne, Sussex. J. S. Walkden, H. H. Ford and R. W. Stevenson.

Frost: Fergus Howard (Final), 1a Cotham Lawn Road, Cotham, Bristol 6. G. D. G. Hake, E. H. Button and T. H. B. Burrough.

Gardner: Edward Antony (Arch. Assoc. (London): Sch. of Arch.), 6a Alexandra Road, St. John's Wood, N.W.8. R. F. Jordan, J. W. Wilcox and L. H. Bucknell.

Gillett: Ralph Percival Henry (The Poly., Regent Street, London: Sch. of Arch.), 55 Mount

Park Road, Ealing, W.5. J. S. Walkden, Charles Blythin and H. I. Ashworth.

Gordon: Patrick John Vincent (Arch. Assoc. (London): Sch. of Arch.), 4 Mailings Park Avenue, Chislehurst, Kent. R. F. Jordan, A. R. F. Anderson and L. H. Bucknell.

Gurling: Reginald Percy Howard (Special Final), 73a, Milton Road, Taunton, Somerset. H. W. Burchett, C. G. Stillman and R. O. Harris.

Harvey: Robert William (Birmingham Sch. of Arch.), 83 Camp Hill Road, Nuneaton, Warwickshire. George Drysdale, T. M. Ashford and Herbert Jackson.

Haynes: Hedley Stuart (Arch. Assoc. (London): Sch. of Arch.), Springfield, Yeovil, Somerset. G. D. G. Hake, E. H. Button and L. H. Bucknell.

Hogbin: Peter Richard (Univ. Coll., Dublin, Ireland: Sch. of Arch.), 'Iveragh Lodge', Waterville, Kerry, Ireland. Prof. J. V. Downes, P. J. Munden and Vincent Kelly.

Holden: George Francis [Final], 20 Merrick Avenue, Farringdon Park, Preston. G. N. Hill, A. T. Nicholson and F. N. Pinder.

Holmes: Jillian Elizabeth (Miss) (Arch. Assoc. (London): Sch. of Arch.), 3 Cromwell Place, S.W.7. George Fairweather, R. F. Jordan and A. R. F. Anderson.

Iredell: John Charles Lesingham (Arch. Assoc. (London): Sch. of Arch.), 34 Christchurch Park, Sutton, Surrey. David Stokes, R. F. Jordan and L. H. Bucknell.

Jolly: Ernest William [Final], 3 Havelock Road, Norwich, Norfolk. T. F. Trower, F. H. Swindells and E. W. B. Scott.

Laird: Colin (The Poly., Regent Street, London: Sch. of Arch.), 14 Royal Terrace, Southend-on-Sea. J. S. Walkden, J. M. Scott and R. F. Reekie.

Leach: Basil Frank [Final], 'Landeck', The Greys, Eastbourne, Sussex. E. A. Chilton, H. G. Turner and K. F. Wray.

Le Briero: Theodore Paul Lucien [Final], 15 Greenhill Road, Leicester. F. Chippindale, Kenneth Palmer and G. A. Cope.

Lewis: Wilfred Stephen (Final), 20 Trinity Court, Gray's Inn Road, W.C.1. H. Lidbetter, H. F. Trew and S. E. Urwin.

Lipski: Louis, A.A. Dip. (Arch. Assoc. (London): Sch. of Arch.), 9 Blacklands Terrace, Sloane Square, S.W.3. J. K. Hicks, A. F. B. Anderson and G. R. Dawbarn.

Lockyer: Raymond (Arch. Assoc. (London): Sch. of Arch.), 50 Earl's Court Square, S.W.5. R. F. Jordan, A. R. F. Anderson and Harold Cherry.

Martin: William Alexander (The Poly., Regent Street, London: Sch. of Arch.), 105 Melrose Avenue, Wimbledon Park, S.W.19. J. S. Walkden, H. I. Ashworth and T. M. Ashford.

Michaels: Leonard, M.A. (Cantab) (The Poly., Regent Street, London: Sch. of Arch.), 106 Eton Place, Eton College Road, N.W.3. J. S. Walkden, M. de Metz and T. H. Birks.

Paterson: John William (Arch. Assoc. (London): Sch. of Arch.), 6 Minerva Road, Kingston-upon-Thames. J. W. Spink, Edward Playne and L. H. Bucknell.

Pearce: John Ricardo (Arch. Assoc. (London): Sch. of Arch.), 17 Walpole Street, Chelsea, S.W.3. R. F. Jordan, L. H. Bucknell and A. W. Kenyon.

Phillips: Sheila Mary (Miss) (Arch. Assoc. (London): Sch. of Arch.), 38 Avenue Mansions, N.W.3. Ivor Shaw, C. L. Gill and L. H. Bucknell.

Pianca: Reginald [Final], 84 Brecknock Road, N.7. Edward Armstrong, Sir Thomas Bennett and F. R. S. Yorke.

Quickenden: Anthony Maurice [Final], 34 Cranley Gardens, South Kensington, S.W.7. E. U. Channon, N. L. Reece and J. F. Howes.

Ralph: James Emerson, M.C. (The Poly., Regent Street, London: Sch. of Arch.), 32 Harben Road, N.W.6. J. S. Walkden, H. I. Ashworth and E. C. Scherrer.

Rosner: Rolf [Final], 72 Merrion Avenue, Stanmore, Middlesex. J. K. Hicks, Harry Moncrieff and Raglan Squire.

Russell: Maurice Hawthorn, M.C. (The Poly., Regent Street, London: Sch. of Arch.), 44 Minster Road, Bromley, Kent. J. S. Walkden, Bertram Carter and H. I. Ashworth.

Scott: Kenneth Mackenzie, M.C. [Special Final], Flat 13, 50 The Drive, Hove, Sussex. K. E. Black, E. A. Verger and S. C. Garrett.

Shenstone: Gerald Guy (Arch. Assoc. (London): Sch. of Arch.), 107 Hadleigh Road, Leigh-on-Sea, Essex. Gerald Shenstone, W. B. Stedman and Richard Sheppard.

Simpson: John Edwin [Final], 20 Ludlow Road, Sunderland, Co. Durham. S. W. Milburn, G. T. Brown and R. N. MacKellar.

Solomon: Philip (Victoria Univ., Manchester: Sch. of Arch.), 27 Cluny Street, Manchester 8. Prof. R. A. Cordingley, F. L. Halliday and J. P. Nunn.

Sydenham: Barbara Jean (Miss) (Arch. Assoc. (London): Sch. of Arch.), Postford, Woking, Surrey. R. F. Jordan, L. H. Bucknell and H. G. Goddard.

Tomlinson: Sydney Thomas [Final], 109 Old Tiverton Road, Exeter, Devon. H. V. C. Hague, W. G. Walmsley and J. Challice.

Tregoning: Vivian Angwin [Final], 'Ailsea', Torwood Mount, Torquay. L. S. Stanley, F. A. C. Maunder and W. T. Higgins.

Tribe: Betty Anne (Mrs.) (The Poly., Regent Street, London: Sch. of Arch.), 92 Wiverton Road, Sydenham, S.E.26. J. S. Walkden, Norman Keep and H. I. Ashworth.

Tribich: Abraham Maurice (The Poly., Regent Street, London: Sch. of Arch.), 17 Balfour Road, Highbury, N.5. J. S. Walkden, Hubert Bennett and H. I. Ashworth.

Turner: Kenneth, Dip. Arch. (Leeds) (Leeds Sch. of Arch.), Mayville Lodge, Dark Lane, Batley, Yorks. G. H. Foggitt, Victor Bain and N. R. Paxton.

Walker: Colin (Leeds Sch. of Arch.), 'Ashfield House', 73 High Street, Heckmondwike, Yorks. Hubert Bennett and applying for nomination by the Council under the provisions of Bye-law 3 (*d*).

Wallace: MacLeod Somerville (Arch. Assoc. (London): Sch. of Arch.), 'Brevis', The Roman Landing, West Wittering, Sussex. R. F. Jordan, L. H. Bucknell and H. G. Goddard.

Ward: Alwyn Frederick [Final], 115, Bullingdon Road, Oxford. E. M. Rice, David Booth and E. A. L. Martyn.

Webster: Guy Everard (The Poly., Regent Street, London: Sch. of Arch), Hillary, Newnham Road, Binstead, I.o.W. J. S. Walkden, H. I. Ashworth and W. T. Higgins.

Williams: Herbert John [Final], 12 Nicosia Road (Side), Wandsworth Common, S.W.18. Sydney Gregson, A. H. Powell and F. Sutcliffe.

Winstanley: Mary (Miss), B. Arch. (Liverpool Sch. of Arch.: Univ. of Liverpool), 83 Harcourt Terrace, S.W.10. Prof. L. B. Budden, B. A. Miller and Donald Brooke.

AS LICENTIATES (7)

Bull: Hubert Henry, 3 Verulam Buildings, Gray's Inn, W.C.1; The Spinney, Chelsfield, Kent. F. W. Newman, H. Lidbetter and T. A. Lodge.

Colgrave: Arnold Edward, City Architect's Dept., Town Hall, Sheffield 1; The Cottage, Shatton, Bamford, Derbyshire. W. G. Davies, Prof. Stephen Welsh and Robert Cawkwell.

Elliott: George, 66 Queen Alexandra Mansions, Judd Street, W.C.1. B. E. Dixon, Rees Phillips and N. F. Cachemaille-Day.

Evans: Ernest John, c/o Messrs. Roper, Son & Chapman, 162 High Street, Hounslow, Middx.; 7 King's Road, Walton-on-Thames, Surrey. Frederick Gibberd, A. C. Burlingham and W. G. Ross.

Green: Albert John Russell, Queen's Chambers, High Street, West Bromwich; Lansdowne, Hagley Road, Pedmore, Stourbridge. J. B. Surman and the President and Hon. Sec. of the Birmingham and Five Counties A.A. under Bye-law 3 (*a*).

Horsman: William John Llewellyn, 58/62 High Street, Epsom, Surrey; 48 Ingleby Way, Wallington, Surrey. H. R. Gardner, W. L. Clarke and H. J. Axten.

Linford: Albert Louis, 36 Market Street, Tamworth, Staffs; 22 Comberford Road, Tamworth. Applying for nomination by the Council under Bye-law 3 (*d*).

ELECTION: 14 DECEMBER 1948

An election of candidates for membership will take place on 14 December 1948. The names and addresses of the overseas candidates with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 27 November 1948.

The names following the applicant's address are those of his proposers.

AS FELLOWS (2)

Gordon: Percy James [*A* 1920], 129 Pitt Street, Sydney, Australia; 9, Abbotsford Road, Homebush, Sydney. Prof. Leslie Wilkinson, Prof. A. S. Hook and B. J. Waterhouse.

Honikman: Alfred Harold [*A* 1935], Diamond House, 27 Parliament Street, Cape Town, South Africa; 'Ferramee', Mulvihal Road, Rondebosch, Cape Town. The late H. J. Brownlee, Prof. L. W. T. White and F. K. Kendall.

AS ASSOCIATES (5)

Barrett: George Watkinson [Passed a qualifying Exam. approved by the R.A.I.A.], Pandora Crescent, Port Moresby, Papua. J. C. Fowell, J. L. S. Mansfield and W. R. Richardson.

Cathcart: Richardson John D'Arcy [Final], M.E.M. House, Salisbury, Southern Rhodesia. Applying for nomination by the Council under Bye-law 3 (*d*).

Maclurcan: Robert Geoffrey [Passed a qualifying Exam. approved by the R.A.I.A.], 7 Shell Cove Road, Neutral Bay, Sydney, New South Wales. J. C. Fowell, W. R. Laurie and J. L. S. Mansfield.

Meisenhelter: Donald [Passed a qualifying Exam. approved by the R.A.I.A.], 226 Beaconsfield Parade, Middle Park, Melbourne, Victoria, Australia. Leighton Irwin, J. F. D. Scarborough and L. M. Perrott.

Van Rompaey: Alfred Robert [Passed a qualifying Exam. approved by the R.A.I.A.], 9 Marlborough Street, Mount Albert, E.10, Melbourne, Victoria, Australia. O. A. Yuncken, R. K. Stevenson and J. F. D. Scarborough.

Members' Column

This column is reserved for notices of changes of address, partnership and partnerships vacant, or wanted, practices for sale or wanted, office accommodation, and personal notices other than for posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. G. Dickinson [*A*] has been appointed Head of the Department of Building at the Technical College, York, and will be pleased to receive trade catalogues, etc., at the Technical College, Ashfield Branch, 159 Tadcaster Road, York.

Sir Lancelot Keay, K.B.E. [*F*], retires from his appointment as City Architect of Liverpool at the end of August. For the present all communications should be addressed to him at Red House, Allerton Road, Liverpool 18. (ALLerton 1334.)

Mr. Brian Hackett [*A*] has been appointed to the new Lectureship in Landscape Architecture at King's College, Newcastle (University of Durham).

Mr. R. A. Horsman [*A*], formerly Chief Architect in the Borough of Finchley Housing and Town Planning Department, has now taken up his appointment as Chief Assistant Architect, County Architect's Department, Buckinghamshire County Council, Aylesbury.

Mr. G. C. Leopold [*A*] has been appointed Architect to Messrs. Frank A. C. Pearce (Eng.) Ltd., and will be pleased to receive trade catalogues, etc., at P.O. Box 178, Nakuru, Kenya Colony. All other communications should now be made to that address.

Dr. J. L. Martin, M.A. [*F*], Principal Assistant Architect, British Railways (London Midland Region) has been appointed Deputy Architect to the London County Council.

Mr. C. R. W. Peake [*A*], formerly of the staff of the Ministry of Town and Country Planning, Region 1, Newcastle, has now taken up his appointment as Area Planning Officer, West Riding of Yorkshire County Council. His address is Old Chronicle Buildings, Peel Square, Barnsley.

Mr. Shivhath Prasad [*A*] has been appointed Architect to the Government of Assam (India) from 30 March 1948. His address is P.W.D. Secretariat, Sillong, India.

Mr. Donald P. Reay [*A*] has been appointed Chief Architect and Planning Officer to the East Kilbride New Town Development Corporation.

Mr. Ellis E. Somake [*F*] has been appointed Architect to Messrs. Upsons Ltd. (The Dolcis Shoe Company), and will be pleased to receive trade catalogues, etc., addressed to him at 7-13 Great Dover Street, London, S.E.1.

Mr. C. J. Such [*L*], Senior Architectural Assistant, Borough Engineer's Department, Cheltenham, has been appointed Senior Architectural Assistant (Housing) to the States Engineer of the States of Jersey.

PRACTICES AND PARTNERSHIPS

The permanent address of **Mr. J. Bannerman** [*A*] is Public Works Department, Central Government Buildings, Vermeulen Street, Pretoria, South Africa.

Mr. William Tatton Brown, M.A. [*A*] has relinquished his partnership in the firm of **Aileen and William Tatton Brown** on being appointed Deputy County Architect to the Hertfordshire County Council. The practice will be carried on by **Aileen Tatton Brown** [*A*].

Mr. Herbert Collins [*F*] has taken **Mr. J. N. Calton** [*L*] into partnership. They will practise as **Collins and Calton** at 32 Carlton Crescent, Southampton (Southampton 3658), and will appreciate trade catalogues, etc.

Messrs. Douglas Crawford and Ellis [*A*], 10 Market Place, Bishop Auckland, Co. Durham, have opened a branch office at Lloyds Bank Chambers, Market Place, Barnard Castle, and will be pleased to receive trade catalogues, etc., at that address.

Mr. A. Falconar Fry [*A*] has moved from Minehead to Cheltenham, and **Mr. A. Ewart Aston** [*L*] will continue to practise from 21 Friday Street, Minehead (Minehead 521) with **Mr. William E. Marsden** [*L*] under the style of **Aston and Marsden** [*L*/*L*].

Mr. Eric Hoare [*F*] is resigning partnership in **Messrs. Roddick, Colvin and Clark,** of 40 Great Hames Street, W.C.1, as from 12 August, and will resume practice under the style of **Eric Hoare and Andrew Clark** at P.O. Box 2292, Nairobi, Kenya, where he will be pleased to receive trade catalogues, etc.

Mr. L. G. Jackson [*F*] has taken into partnership **Mr. E. D. Hill** [*A*], and the practice will now be conducted under the title of **Jackson and Hill,** P.O. Box 677, Nairobi.

Mr. E. Austen Johnson [*A*] is setting up his own practice in Huddersfield, and will be pleased to receive trade catalogues, etc., on all subjects at 18 King's Head Buildings, Cloth Hall Street, Huddersfield.

Mr. Hedley G. Radford [*A*] and **Mr. John S. Hatton** [*A*] have entered into partnership and are practising under the style of **Radford and Hatton** at 31 Salisbury Road, Kampala, Uganda, East Africa. Their postal address is P.O. Private Bag, Kampala, Uganda, where they will be pleased to receive trade catalogues relevant to East Africa.

Mr. J. C. Rose [*A*], Executive Architect to the Windward Islands, whose office in Castries, St. Lucia, British West Indies, was recently destroyed by fire, has reopened his office in the same town and will be pleased to receive replacement of trade catalogues, etc., addressed to him at the office of the Architect, Castries, St. Lucian, B.W.I.

Mr. Michael Torrens, M.B.E. [*A*] has removed from Stafford House, Taunton, to 31 Bridge Street, Taunton (Taunton 3544), where he is continuing the practice formerly carried on in partnership with **Mr. H. A. R. Ellis** [*F*].

Mr. H. Wellesley Wesley [*A*] has entered partnership with **Mr. W. D. Campbell** in Buenos Aires, the name of the firm being **W. D. Campbell & H. W. Wesley.** The address is San Martin, 333, Buenos Aires, R. Argentina.

CHANGES OF ADDRESS

Messrs. W. A. Bassett and Peter Berner [*L*/*A*] have removed from 47 High Street, Tonbridge, to Salford Terrace, 23 Quarry Hill Road, Tonbridge (Tonbridge 2744).

Mr. H. T. Goodwin [*F*] has removed from Marshall House, 9 Newcomen Street, London Bridge, S.E.1, to 6 Duke Street Hill, London, S.E.1.

Mr. P. J. B. Harland [*F*] has removed to 23 Dorset Street, Gloucester Place, London, W.1 (WELbeck 8472).

Mr. R. D. Lawson [*A*], formerly of 3 Herbert Road, Southsea, Hants, has removed to 33 Wilderness Road, Earley, near Reading, Berks.

Lieut.-Colonel G. Swayne-Thomas [*F*] has recently returned from Karachi. His address is now 16 Westbourne Park Road, Bayswater, London, W.2. (BAYswater 2086.)

Mr. Bernard Wilson [*A*], formerly of 55 Mount Road, Wallasey, Cheshire, announces his new address as 21 Summit Avenue, Salem, near Boston, Massachusetts, U.S.A.

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Retired Fellow (London) offers free buckram bound volumes 1 to 45, R.I.B.A. JOURNAL, and loose numbers 1 to 19 of Volume 46 if any member cares to collect them. Box 166, c/o Secretary, R.I.B.A.

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